SCREENING SITE INSPECTION REPORT
FOR
SANYO E&E CORPORATION
RICHMOND, INDIANA
IND087032207

OCTOBER 1996

This document was prepared in accordance with U.S. EPA Contract No. 68-W8-0089, WESTON Region V Alternative Remedial Contract Strategy (ARCS).

Work Assignment No. 045-5JZZ Document Control No. 4500-45-AGFX

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SECTION 1

INTRODUCTION

Roy F. Weston, Inc. (WESTON®) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Sanyo E&E Corporation site under contract number 68-W8-0089 and Work Assignment No. 45-5JZZ.

The site was evaluated in the form of a preliminary assessment (PA) by the Indiana Department of Environmental Management (IDEM), dated 9 May 1988 (Reference 1). WESTON prepared an SSI work plan for the Sanyo E&E Corporation site, which was approved by U.S. EPA on 20 March 1992 (Reference 2). The SSI field sampling of the Sanyo E&E Corporation site was conducted during 18-19 August 1992.

The SSI included an interview with a site representative, a reconnaissance inspection of the site, and the collection of four investigative soil samples, three surface water and sediment samples, one residential well sample and two groundwater samples.

SECTION 2
SITE DESCRIPTION

2.1 LOCATION

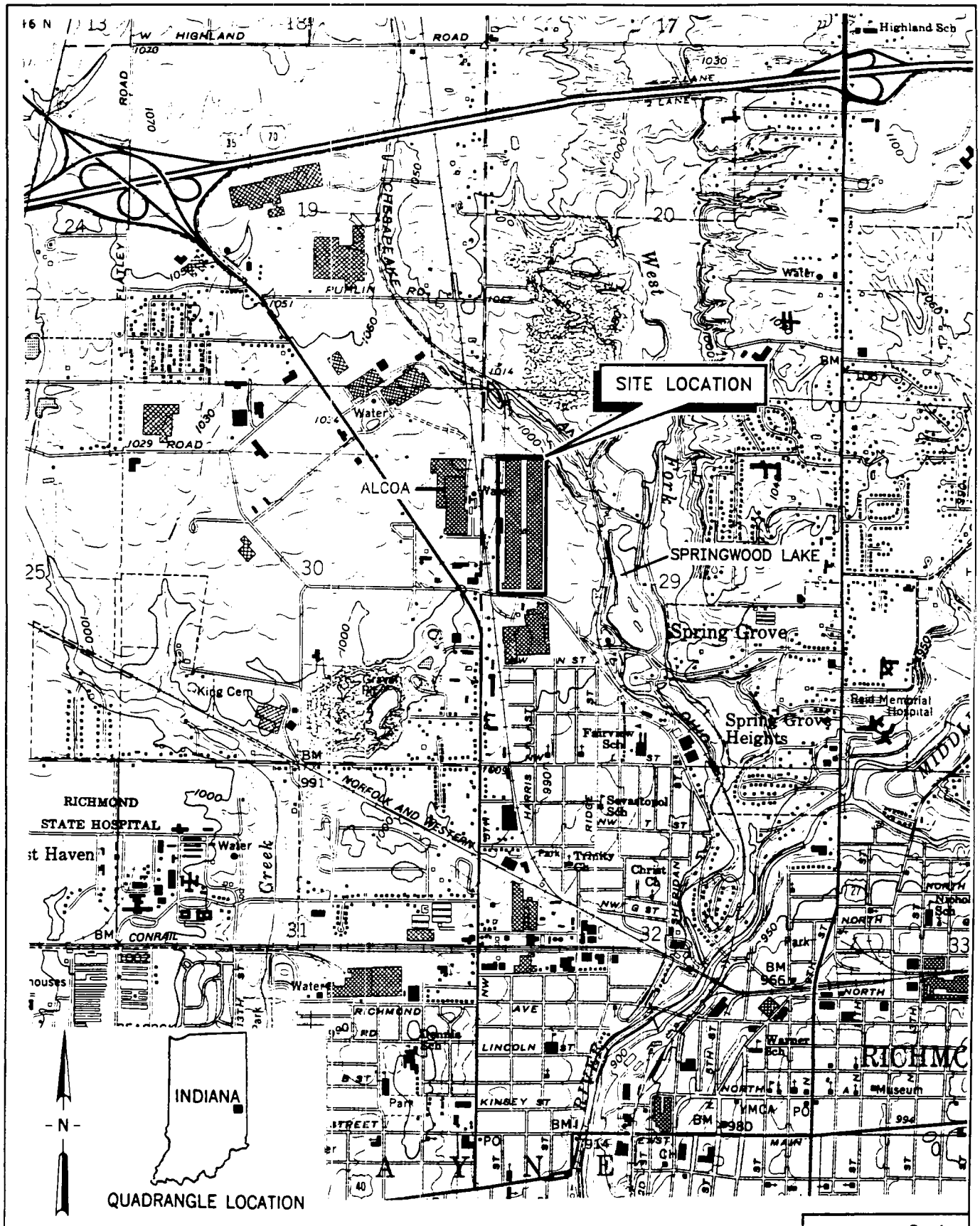
Sanyo E&E Corporation (Sanyo) is located at 1767 Sheridan Street in Richmond, Indiana in Wayne County. The geographic coordinates are 39° 51' 30" N, 84° 54' 33" W (Reference 3). A 4-mile radius map for the site is presented in Appendix A (References 4 and 5). Figure 2-1 represents the location of the facility.

2.2 SITE DESCRIPTION

The manufacturing facility at 1767 Sheridan Street has been operating from the middle 1930s to the present time. Currently, one section of the facility is used as a warehouse, while the other section is used for the manufacturing of compact discs. The property is bordered by Alcoa on the west, Circle K property on the north, woods on the east and Williamsburg Pike on the south. The site is enclosed by a fence with a guard admitting visitors and manufacturing traffic during the two production shifts.

The site contains two known landfill areas comprising approximately ten acres located on the north and east sides of the property (Reference 1). Runoff from the site flows via three discharge points that ultimately lead to Springwood Lake and Whitewater River. The features of the Sanyo site are shown in Figure 2-2. A 4-mile radius map of the Sanyo site (References 2,3,4) is provided in Appendix A.

There are five CERCLIS listed sites within a 1-mile radius of the site (Reference 6), as indicated in Table 2-1.



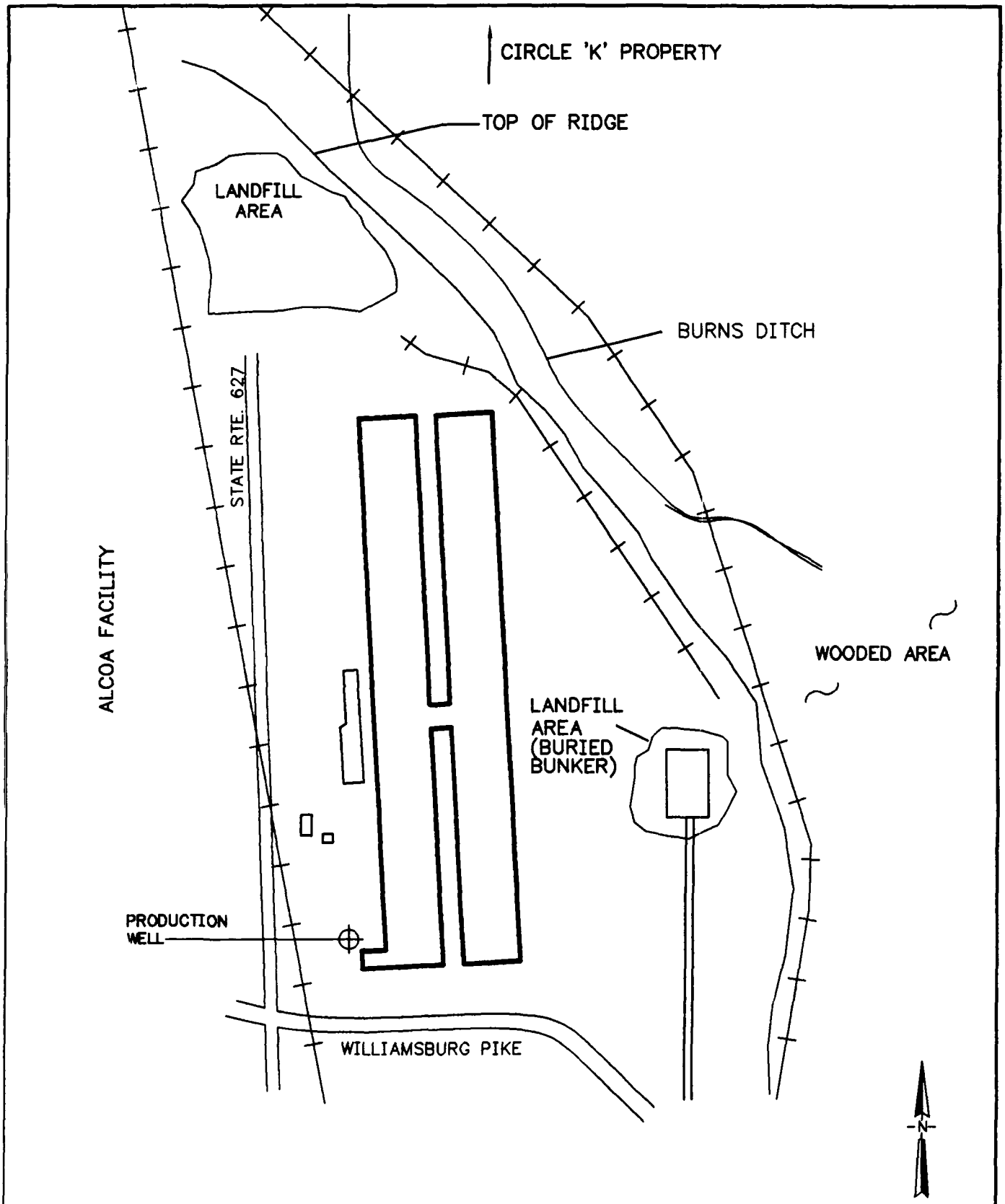
SOURCE: USGS TOPO RICHMOND QUADRANGLE

FIGURE 2-1

ALTERNATIVE REMEDIAL CONTRACTING STRATEGY
U.S. EPA CONTRACT No. 68-W8-0089
WORK ASSIGNMENT No. 45-5JZZ
DOCUMENT CONTROL No. 4500- 45-AGFX

AREA LOCATION MAP

SANYO E & E CORP.
Richmond, Indiana



SOURCE: IDEM FILES

FIGURE 2-2

ALTERNATIVE REMEDIAL CONTRACTING STRATEGY
U.S. EPA CONTRACT No. 68-W8-0089
WORK ASSIGNMENT No. 45-5JZZ
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SITE FEATURES MAP

SANYO E & E CORPORATION
Richmond, Indiana

TABLE 2-1

Potential Source Within a 1-Mile Radius
Sanyo E and E Corporation
Richmond, Indiana

Potential Source Area	CERCLIS ID Number	Address
Alcoa	IND006062848	1701 Williamsburg Pike
Belden	IND006421374	Northwest "N" Street
Dana Corporation	IND984957019	1690 Williamsburg Pike
Springwood Lake Dump	IND982070724	64 Waterfall Road
Williamsburg Pike Dump	IND984868778	Southwest Corner of Williamsburg Pike

Source: Reference 6

2.3 SITE HISTORY

The facility has been in operation from the 1930s (dates of 1935 and 1939 have been reported as when the plant was built and started operation). Previous owners of the property have included AVCO (also known as Crosley), Design and Manufacturing (D&M) and Absocold Corporation. Sanyo purchased the plant in March 1986 from D&M for manufacturing of refrigerators. D&M had manufactured 18-inch dishwashers and porcelain fixtures. Absocold Corporation was located at the facility at the same time as D&M and manufactured small refrigerators. The two operations used sheet metal for molding, treating, processing, and painting, prior to packaging the dishwashers and refrigerators. D&M purchased the plant from AVCO in mid-1970s. AVCO conducted manufacturing work under military contract, producing grenades, small arms, guidance mechanisms for Polaris missiles, and gun sights. The plant has also built televisions and automobiles.

State of Indiana Stream Pollution Control Board has records of several "Liquid Waste Removal Records" for years 1979 to 1985 for the previous owner, D&M. These records stated that as much as 41,799 pounds of spent methylene chloride waste per year had been hauled from their plant by the hauling firm of Chemical Solvents of Cleveland, Ohio. In addition, up to 13,800 pounds of paint waste and up to 20,979 pounds of spent toluene was hauled from their plant per year by Reclaimed Energy Company of Connersville, Indiana and Environmental Processing Services of Dayton, Ohio, respectively.

The 1985 Uniform Hazardous Waste Manifests (including material data sheets prepared by D&M) identified the types of hazardous materials used or stored on the property. The Uniform Hazardous Waste Manifest lists 1,980 gallons of spent methylene chloride, 55 gallons of waste toluene, phosphoric acid, potassium hydroxide, methanol, ethyl alcohol, and trichloroethene.

On 7 June 1985, Mr. Paul V. Fuller of D&M sent a letter to the Office of Emergency Response, Indiana State Board of Health, describing a spill of hydraulic oil that occurred

on 6 June 1985 by D&M. An employee discharged 40 to 50 gallons of hydraulic oil (trade name Tellus 68) into a storm sewer, which drained into Burns Ditch and then into Whitewater River. D&M personnel immediately contained the hydraulic oil within a 1,500-yard stretch of Burns Ditch utilizing absorbent booms and pads and started recovery operations (wringing out saturated absorbent pads). Approximately 35 to 40 gallons of oil were recovered.

On 4 November 1985, Mr. Norman Gray of the Indiana Division of Land Pollution Control visited D&M in Richmond. In an 8 November 1985 office memorandum, he noted that methylene chloride was used to strip paint at the plant. He noted that both the spent solvent and the paint chips should be treated as a hazardous waste, whereas D&M was treating the chips as a special waste. About 20 to 25 gallons of spent solvents were generated per year. He also noted that the metal cleaning system used to remove drawing and cutting oils prior to painting generated 3 to 5 gallons per month of sludge and sediment. The alkaline cleaners used are recycled. Another process etched the metals, and a phosphate coating followed by trivalent chromium coating was added to the metal parts to prepare them for painting or enameling. This process generated two to three drums per year of iron phosphate sludge and five to six drums per year of zinc phosphate sludge. Other wastes generated included floor sweepings of porcelain fritz (porcelain fragments) (approximately four drums per month), floor sweepings of PVC vinyl powder (approximately one drum per month), and several drums per month of floor sweepings containing absorbed primer paint, top coat paint, hydraulic fluids, and cutting oils.

On 23 January 1986, Mr. D. Bruce Kizer of the Compliance Monitoring Section of the Indiana Board of Health conducted an inspection of D&M - Absocold Corp. In the 6 March 1986 office memorandum, he noted that they were large quantity generators of toluene and methylene chloride based on the 1983 annual report. Other hazardous and nonhazardous wastes he noted were hydraulic oils, phosphate tank sludges, Ni filter sludge, and vinyl coatings. The Ni sludge was reported to have been previously disposed of at the

Richmond Sanitary Landfill. Mr. Kizer noted that D&M was closing operations at the Richmond Plant.

During a follow-up visit on 6 June 1986, Mr. Kizer determined that D&M had sold the facility to Sanyo. The inspection determined that waste methylene chloride from cleaning foam injection guns and toluene from a painting process were still in operation and Sanyo was lacking a proper contingency plan, personnel training, and correct marking and dating of hazardous waste containers. In a letter in 1988 from Sanyo, IDEM was informed that 168 tons of coal-fired ash was generated per year and permission was requested for off-site disposal in a landfill. The specifications of the coal indicated it was washed stoker coal containing 0.7 percent sulfur.

In November 1987, Mary Anne Hunter, a representative of IDEM Site Investigation Section, conducted a visual inspection of Springwood Lake. She observed piles of black materials north of Sanyo along the east hill edge, which is the area of the old AVCO (Crosley) dump area. She also noted the condition of Springwood Lake as deteriorated. The lake which was formerly 30 feet deep, appears to be silted in with vegetation growing in these silted areas. She noted continuous flow in Burns ditch from plant discharges.

On 11 February 1988, Ms. Hunter sent a message to Mr. Miller of EPA that Sanyo was observed dumping flyash over the neighboring hill into a nonretrievable location on 10 February 1988 and requested him to investigate further.

Sanyo applied for a new NPDES permit, which became effective 1 April 1989. Under the terms of the new permit, Sanyo was allowed to discharge into the unnamed creek leading to the West Fork of the Whitewater River. Sanyo was required to test the discharge twice monthly for pH, oil and grease, and flow. The results were to be documented in a report to be sent to IDEM once per month. On 27 July 1990, Sanyo requested IDEM that the NPDES permit be revoked because the facility had not been used for manufacturing

purposes since December 1989 and is currently used only as a warehouse. On 17 August 1990, IDEM informed Sanyo that the NPDES permit was now void.

2.4 PRIOR INVESTIGATIONS

In February 1987 the City of Richmond began an investigation of the quality of the water and sediments in Springwood Lake. Springwood Lake is located along Whitewater River and is used as a City Park for recreational activities such as fishing and swimming. There was concern that discharges and/or chemical spills from industries in the area (including the D&M - Absocold Corp. operation which had been purchased by Sanyo) may have had a negative effect on the quality of the lake and potentially be a health risk to the general public using its recreational facilities. The city officials initiated a historical review of the industries of the area by talking to the City Engineer (Ralph Willis), the City Chemist (Jackie Makela), Dr. Warrick of County Health Dept., the Soil and Water Conservation District, and consultants from Morrison & Associates. The historical search determined that Belden Corporation discharged into the lake. The Sanyo property was also identified as one of the plants that may have discharged to Browns Ditch and Springwood Lake. Several unconfirmed reports to the city alleged that AVCO buried barrels on their property when they closed (in 1971 or 1972). AVCO was also reported to have used cyanide in the plant.

E.C.I. Environmental Services (ECI) was contracted to obtain sediment samples for analysis, while the city analyzed the quality of lake water, Whitewater River, the spring at north end of park, and the drinking water from the Springwood Lake Park. On March 1987 four lake sediment samples were taken from Springwood Lake by ECI (Figure 2-3). These samples detected heavy metals and cyanide in the lake sediments as shown in Table 2-2.

The Richmond city official, based on evaluation of the results, decided to post NO FISHING signs at the lake. The city contacted the Mr. Marty Maupin of IDEM. Mr. Maupin informed the city that the common cyanide level in sediments was 0.25 mg/kg. Since the lake sediments contained cyanide levels up to 250 mg/kg and elevated levels of

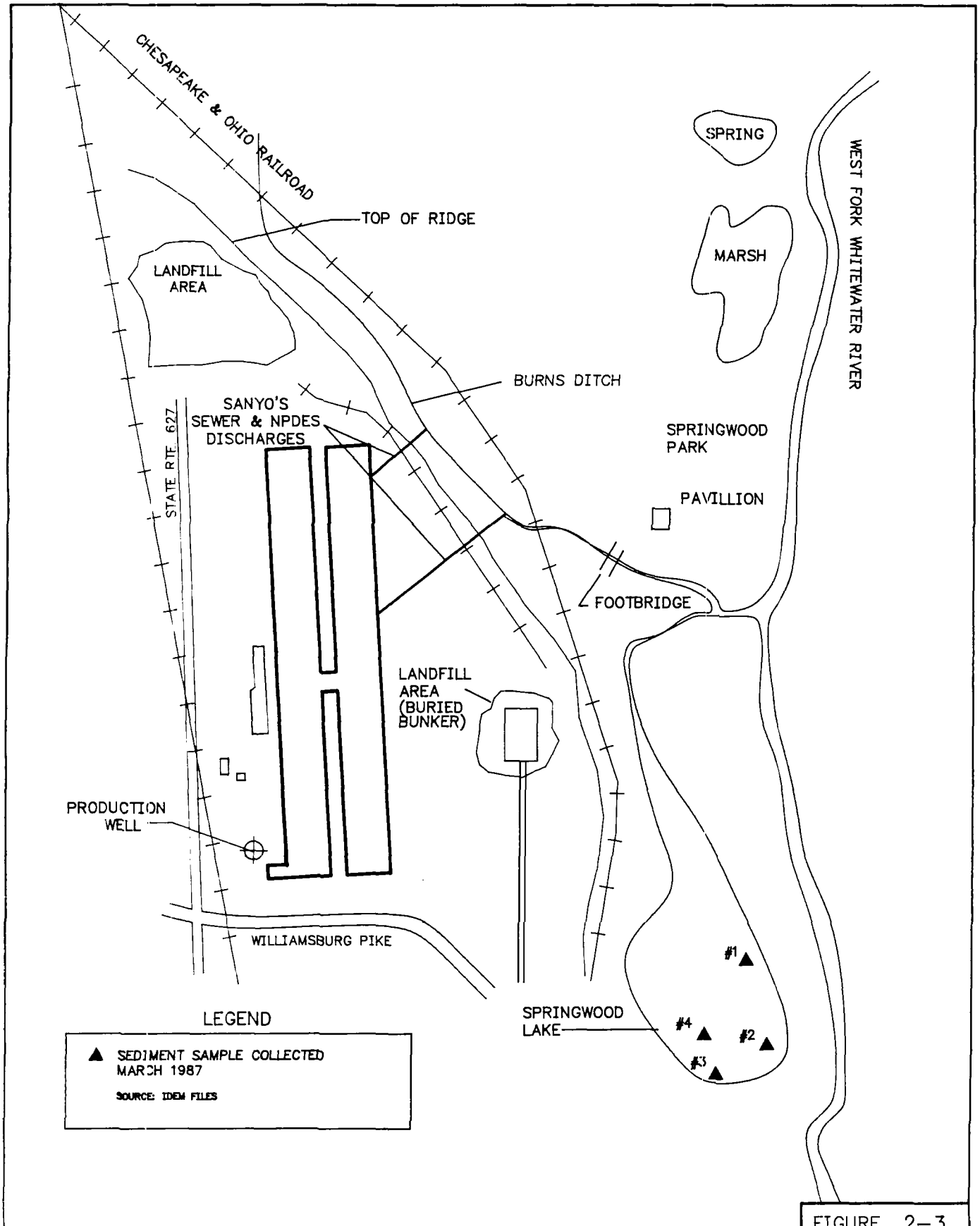

FIGURE 2-3

ALTERNATIVE REMEDIAL CONTRACTING STRATEGY
U.S. EPA CONTRACT No. 68-W8-0089
WORK ASSIGNMENT No. 45-5JZZ
DOCUMENT CONTROL No. 4500-45-AGFX

SEDIMENT SAMPLING LOCATIONS
SANYO E & E CORPORATION
Richmond, Indiana

77591 D

TABLE 2-2

Springwood Lake Sediment Sampling Results
Richmond, Indiana
(All Concentrations in mg/kg)

	No. 1	No. 2	No. 3	No.4
Cadmium	0.6	12.5	<.5	13.2
Chromium (total)	13	60	8	50
Copper	202	220	58	190
Lead	18	293	<10	260
Nickel	8	35	13	16
Zinc	86	682	49	616
Arsenic	15.9	12.6	9.4	10.7
Mercury	0.018	.080	.008	0.071
Selenium	0.15	.72	.13	0.68
Cyanides (total)	12.2	252	<.04	221
Extractable organic halides	<3	<3	<3	<3

Samples collected by ECI Environmental Services in March 1987 were analyzed by Brookside Farms Laboratory Association, Inc.

other heavy metals, there was concern for public safety. In April 1987, the city recommended the Park Board close the Springwood Lake Park until more information could be obtained about the lake's potential health hazards. On 13 April 1987, the city contacted Mr. Norman Niedergang, the Superfund Enforcement Section Chief in Waste Management Division of U.S. EPA. He recommended the city contact Jackie Stekkler of the Superfund department at IDEM. Based on the results of water sampling received by the city during May and June 1987, the city reopened Springwood Park for some recreational facilities.

On 9 May 1988, Ms. Mary Anne Hunter of IDEM completed a Preliminary Assessment of the Sanyo property (Reference 1). The state recommended sampling of soils and surface water discharges to characterize the site.

IDEM has record of a notification on 5 April 1990 of removal of one leaking underground storage tank (UST) from Sanyo property. The tank was used for storage of gasoline. The capacity of the tank is not known. Soil samples taken by ETSS of Ohio, Inc., the excavation contractor, found soil contamination in the range of 76 to 83 ppm hydrocarbons (analyzed by Bowser-Morner, Inc. on 30 March 1990). Based on these levels, ETSS requested they be allowed to close the excavation.

2.5 SITE RECONNAISSANCE

WESTON personnel, Mr. Jeff Watson and Ms. Tracy Harding, conducted a site inspection of the property owned by Sanyo on 19 February 1992. They met with the Sanyo Operations Manager, Carla Mauer, to obtain additional information about the site.

In 1986, Sanyo purchased the site from D&M Manufacturing, a company which manufactured refrigerators. After the purchase, Sanyo continued to manufacturer refrigerators until 1989 and then switched operations to a multi-tenant warehouse. There are currently 16 tenants at the warehouse which include:

- Sanyo Laser Products - manufactures compact discs on site.
- Resourceful Foods - purchases government foods and stores on site.
- Saver Systems - manufactures wood sealer on site.
- Landis Plastics - stores McDonald's plastic promotional items on site.
- Convenience Store Distribution Company - stores on site.
- GTE - stores phone cable spools.
- SNA - Sanyo's maintenance shop.
- Wayne Dairy - stores corrugated containers on site.
- ICI - parent company of Thorough Systems, stores varnishes on site.
- Delta Music - Packages compact discs from Sanyo Laser Products on site.
- Hill's Pet Products - stores Science Diet dog and cat food on site.
- Packaging Corporation of America - stores corrugated containers on site.
- Muscles in Motion - fitness center on site.
- Community Action of East Central Indiana - stores food on site.
- Advantage Floor Care - stores cleaners on site.
- A+ Painting - a home improvement company.

Three previous tenants who used the warehouse include:

- J.E. Parker - an office for chicken suppliers.
- Borden - stored potato chips on site.
- Chippewa Express - an office for a trucking firm.

Drinking water is provided by Indiana American Water Company. However, Sanyo Laser Products installed a production well located on the west side of the west warehouse that is used for supplying water for processing. The Sanyo facility discharges into sanitary sewers. Stormwater runoff discharges east of the facility and is not analyzed. A 350,000-gallon underground reservoir exists for fire protection. Nonhazardous solid waste is hauled by Recycling Center, Inc. to the Richmond Sanitary Landfill.

A walk over of the site revealed many areas with discolored soils. Coal ash was dumped around much of the eastern perimeter of the property. The bunker that was noted in areal photographs (on the east side of the property) had been buried after 1986. The north landfill did not seem to have a cap on it. There was coal ash covering the fill. Sanyo has subsequently dumped concrete over the surface of the landfill. A new 68,000-gallon aboveground storage tank containing liquid nitrogen was installed west of the west warehouse.

According to Ms. Mauer, Heritage Remediation performed an environmental assessment in 1989. Subsequent to the assessment, the following activities were completed:

- The north landfill was capped with 2 feet of soil. (This was not observed during the walk over.) Surface soil samples of the landfill revealed low metals and low PCBs.

- All asbestos in both warehouses was properly removed by contractors.

- Two USTs were excavated in April 1990. ETSS of Ohio removed a 600-gallon capacity fuel oil tank to the east of the east warehouse. Bowser-Morner analyzed soil samples from the tank area and found 12 ppb TPH. No soils were removed from the site. A 1,000-gallon gasoline tank that was located between the warehouses was removed and considered clean. Sanyo has no certificates of tank removal.

- Seven PCB transformers were removed from the site between 1987 and 1990. Three more are currently being removed.

- Approximately 131 waste drums were identified and removed. F003 and F005 wastes were manifested to Clark Processing. F007 wastes were manifested to Chemtron. D001, D002, D007, and D008 wastes were manifested to Environmental Enterprises. D007 and D002 wastes were manifested to ChemMet. F003 and F005 wastes were manifested to Marine Shale Processors.

SECTION 3
SOURCE SAMPLING

3.1 INTRODUCTION

This section discusses soil sampling locations, rationale for sample collection, procedures followed during sampling and analytical results of soil sampling. The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for the Sanyo E&E Corporation is provided in Appendix B. Photographs of site sampling are presented in Appendix C.

3.2 SAMPLING LOCATIONS

Soil samples were collected from locations shown in Figure 3-1. The rationale for samples collected is shown in Table 3-1. During site sampling, four subsurface soil samples were collected.

3.3 SAMPLING PROCEDURES

The purpose of soil sampling was to determine the nature and extent of contamination of the buried and surficial materials at the site. Soil samples SB01-01 and SB02-01MSD were collected from the north landfill area, while SB03-01 was collected from top of the east landfill area. Soil sample SB04-01 was collected near the eastern property boundary at the location of alleged coal ash dumping. A field duplicate soil sample (SB03-01DP) was collected at sample location SB03. Soil sample SB02-01MSD was used by the laboratory as a matrix spike (MS)/matrix spike duplicate (MSD) sample to evaluate the accuracy and precision of the analyses. A background soil sample collected at the Alcoa site on 4 June 1992 was used as the upgradient background sample for the Sanyo site. Alcoa is located approximately 250 feet west of Sanyo E&E Corporation.

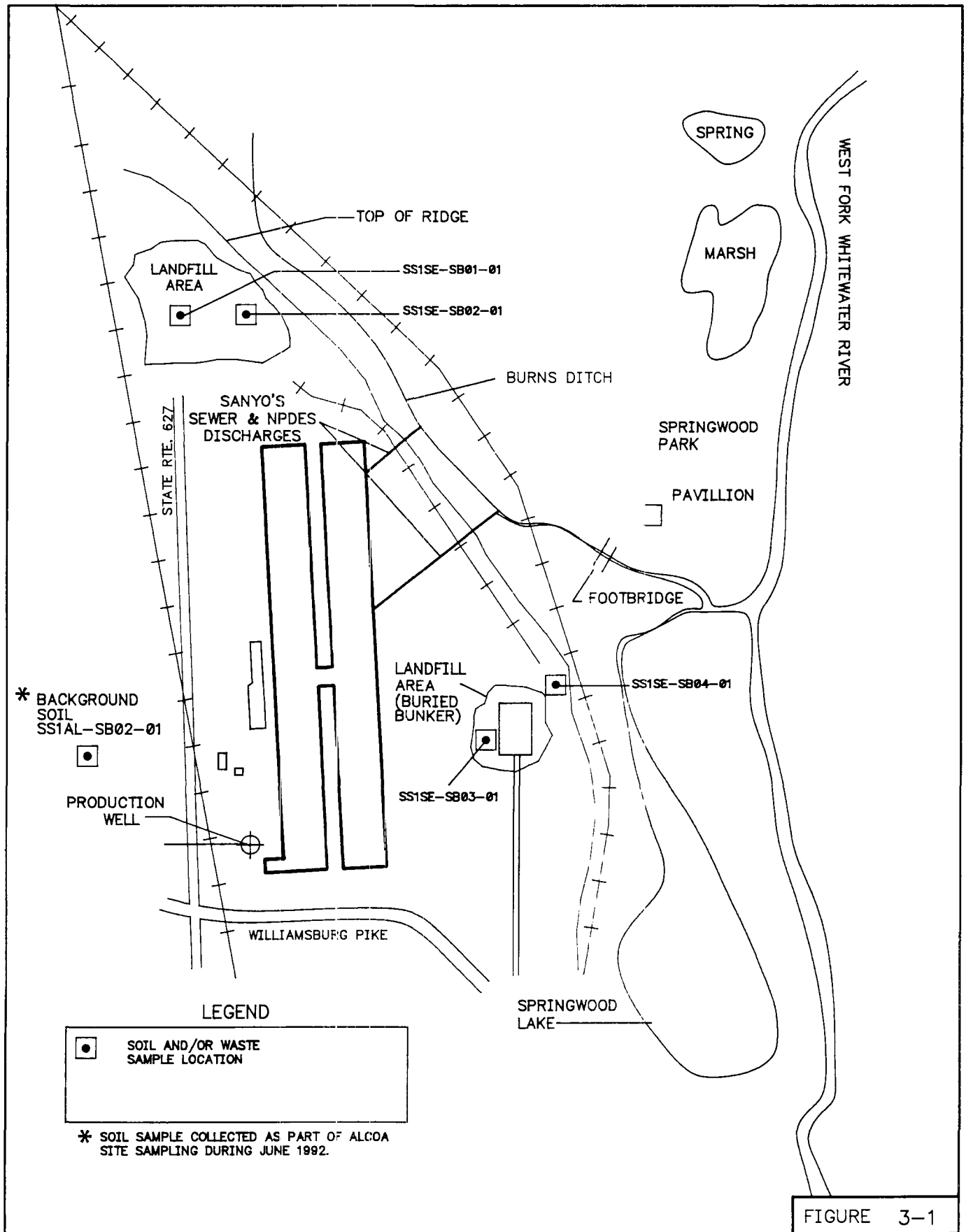

FIGURE 3-1

ALTERNATIVE REMEDIAL CONTRACTING STRATEGY
U.S. EPA CONTRACT No. 68-W8-0089
WORK ASSIGNMENT No. 45-5JZZ
DOCUMENT CONTROL No. 4500-45-AGFX

SOIL SAMPLING LOCATIONS
SANYO E & E CORPORATION
Richmond, Indiana

77591 D

TABLE 3-1

Soil Sampling Locations and Rationale
Sanyo E and E Corporation
Richmond, Indiana

Field Sample Number	Traffic Report No.		Sample Type	Date and Time of Collection		Location/Rationale
	Organic	Inorganic				
SB01-01	ERW01	MERP01	Soil Boring (2-4')	8/19/92	1450	Subsurface soil sample collected from western part of the north landfill area to characterize buried materials.
SB02-01 MSD	ERW03	MERP03	Soil Boring (2-4')	8/19/92	1500	Subsurface soil sample collected from the eastern portion of the north landfill area to characterize buried materials.
SB03-01	ERW04	MERP04	Soil Boring (2-4')	8/19/92	1615	Subsurface soil sample collected from the top of the east landfill area to characterize buried materials.
SB03-01 DP	ERW02	MERP02	Soil Boring (2-4')	8/19/92	1615	Field duplicate of SB03-01.
SB04-01	ERW05	MERP05	Soil Boring (2-4')	8/19/92	1645	Subsurface soil sample collected from the eastern boundary of the property to characterize buried materials.
SS1AL-SB02-01 MSD[1]	EQD75	MEQF28	Soil Boring (2-4')	6/4/92	1247	Subsurface soil sample collected upgradient of site for background purposes.

[1] Sample collected during Alcoa site sampling.

Soil samples SB01-01, SB02-01MSD and SS1AL-SB02-01MSD were collected at depths of 2 to 4 feet using a hand auger. Soil samples SB03-01, SB03-01DP and SB04-01 were collected at depths of 2 to 4 feet using a power auger.

The volatile organic analysis (VOC) soil sample aliquot was collected first as a grab sample to minimize loss of volatiles. The grab soil sample was removed from the hand or power auger using a decontaminated stainless steel scoop and placed as quickly as possible into the VOA sample container without any mixing. The soil sample material was then composited by placing in a stainless steel bowl and mixing with a stainless steel scoop. Mixing was continued until a sample homogeneity (same color and texture) was achieved. This composited soil sample was used for analysis of semivolatile, pesticides/PCBs, and inorganics.

Standard decontamination procedures indicated in the U.S. EPA-approved Quality Assurance Project Plan (QAPP) (Reference 7) were followed during the collection of all soil samples. All samples were packaged and shipped in accordance with procedures included in the U.S. EPA-approved QAPP (Reference 7).

Soil samples were analyzed by the following laboratories participating in the EPA Contract Laboratory Program (CLP): Target Compound List (TCL) compounds by Western Research Institute, Laramie, Wyoming; and Target Analyte List (TAL) compounds by American Analytical and Technical Services, Broken Arrow, Oklahoma. The background soil sample was analyzed by the University of Iowa, Iowa City, Iowa for Target Compound List (TCL) compounds and by Environmental Health Research Testing, Cincinnati, Ohio for Target Analyte List (TAL) analytes. A listing of TCL compounds and TAL analytes, including their quantitation/detection limits, is presented in Appendix D.

3.4 ANALYTICAL RESULTS

A summary of analytical results of soil sampling is presented in Table 3-2. Only one volatile

TABLE 3-2

Analytical Results of Soil Sampling
Sanyo E and E Corporation
Richmond, Indiana

PARAMETERS	FIELD SAMPLE NUMBER					
	SB01-01	SB02-01MSD[1]	SB03-01	SB03-01DP	SB04-01	SSIAL-SB02-01MSD (Background)
Volatiles, µg/kg						
Methylene Chloride	--	--	--	--	--	13 B
1,2-Dichloroethene (total)	120	4200	--	--	--	--
Trichloroethene	27 J	340 J	--	--	--	--
Toluene	--	360 J	4 J	--	3 J	--
Xylenes (total)	--	7900	5 J	--	--	--
Semivolatiles, µg/kg						
Naphthalene	100 J	2000 J	--	--	--	--
2-Methylnaphthalene	99 J	1100 J	--	--	--	--
Dibenzofuran	27 J	--	--	--	--	--
Phenanthrene	89 J	2000 J	--	--	--	29 J
Fluoranthene	--	--	--	--	--	72 J
Pyrene	34 J	--	--	--	--	56 J
Chrysene	24 J	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	--	--	--	--	--	61 BJ
Benzo(b)fluoranthene	--	--	--	--	--	52 J
Benzo(k)fluoranthene	--	--	--	--	--	36 J
Benzo(g,h,i)perylene	--	--	--	--	--	29 J
Pesticides/PCBs, µg/kg						
Endosulfan sulfate	--	--	--	--	--	1.1 JP

TABLE 3-2

Analytical Results of Soil Sampling
Sanyo E&E Corporation
Richmond, Indiana
(Continued)

	FIELD SAMPLE NUMBER					
PARAMETERS	**SB01-01**	**SB02-01MSD[1]**	**SB03-01**	**SB03-01DP**	**SB04-01**	**SSIAL-SB02-01MSD (Background)**
Aroclor-1254	890 PC	6600 P	--	--	--	--
Aroclor-1260	650PC	1700 P	--	--	--	--
Metals, mg/kg						
Aluminum	4600	6200	4430	4340	6620	13200
Arsenic	15.6	9.2	4.4	4.6	4.9	11.6S
Barium	152	299	21.5 B	21.6 B	35.8 B	84.5
Beryllium	2.6	3.1	1.8	1.5	1.6	0.80 B
Cadmium	--	406	--	--	--	3.6
Calcium	5020 J	9470 J	165000 J	115000	117000 J	9380 EJ
Chromium	208	1330	5.2	6.6	8.9	18.3
Cobalt	6.0 B	11.6 B	3.5 B	3.9 B	4.6 B	7.5 B
Copper	112	143	6.9	8.3	9.6	22.5
Iron	52900	16600	8330	8640	11500	22500
Lead	27.7 WJ	336 WMJ	7.1 WMJ	9.7 WJ	7.2 WMJ	49.8* J
Magnesium	2010	2980	70500	53800	52200	6230
Manganese	292 NJ	361 NJ	211 NJ	238 NJ	286 NJ	566
Mercury	--	0.15*	--	--	--	0.05 B
Nickel	20.4	24.8	6.9 B	10.0	13.0	19.5
Potassium	755 B	859 B	1070	939 B	1450	978 BEJ
Selenium	1.9	0.97 B	--	--	--	--

TABLE 3-2

Analytical Results of Soil Sampling
Sanyo E&E Corporation
Richmond, Indiana
(Continued)

FIELD SAMPLE NUMBER						
PARAMETERS	SB01-01	SB02-01MSD[1]	SB03-01	SB03-01DP	SB04-01	SSIAL-SB02-01MSD (Background)
Sodium	--	218 B	--	--	--	114 B
Thallium	--	--	--	--	--	0.23 BWJ
Vanadium	25.2	24.6	11.5	11.2	14.6	32.6
Zinc	59.3	755	20.1	24.3	29.6	75.2
Cyanide	--	94* J	0.73* J	0.68* J	--	--

Only detectable concentrations are reported as follows:

[1] - The organic fraction was analyzed as a medium level sample.

Organics

J - Value is estimated because it is below Contract Required Detection Limit (CRDL) or because of a QC protocol.
P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two columns. The lower of the two values is reported.
C - This applies to pesticide results where identification has been continuously GC/MS.
B - Compound found in the associated blank as well as in the sample. Value is semiquantitative..
-- - Analyzed for but not detected above instrument detection limit.

Metals

J - Value is above Contract Required Detection Limit (CRDL) and is an estimated value because of a QC protocol.
B - Value is greater than the instrument detection limit but less than the Contract Required Detection Limit (CRDL).
N - Spiked Sample recovery outside control limits.
* - Duplicate values outside QC protocols which indicates a possible matrix problem. Value is semiquantitative.
S - Analysis by method of standard additions. Value is quantitative.
W - Post-digestion spike for GFAA was out of control limits (85-115%), while sample absorbance was less than 50% of spike absorbance.
M - Indicates that the duplicate injection criteria was not met.
-- - Analyzed for but not detected above instrument detection limit.
E - Concentration exceed calibration range of equipment.

compound, methylene chloride, was detected at a concentration of 13 ppb in the background soil sample. However, a number of semi-volatile organic compounds belonging to the PAH group were detected in the background sample at estimated concentration levels of between 29 and 72 ppb. The only pesticide found in the background sample was Endosultan sulfate at an estimated concentration of 1.1 ppb.

1,2 dichloroethene and trichloroethene were detected in both subsurface soil samples collected from the north landfill area. Toluene and xylene were present only in the subsurface soil collected from the eastern portion of the north landfill area. The concentration levels of volatile organics detected were significantly greater in the sample collected from the eastern portion of the north landfill area. Very low levels of toluene in estimated concentrations were detected in subsurface soil samples collected from the top of east landfill and the eastern property boundary.

Semi-volatile organics and PCBs were not detected in subsurface soil samples collected from the top of east landfill area and the eastern property boundary. Semi-volatile organics, napthalene and 2-methylnaphthalene, which were not detected in the background sample, were detected only in the subsurface soil samples collected from the western and eastern portion of the north landfill. Phenanthrene was detected at levels greater than three times the background level in subsurface soils collected from the north landfill area. Aroclor 1254 and 1260 were detected in significant levels in subsurface soils from the north landfill area. As observed for volatiles, the concentration levels of semi-volatile organics and aroclors detected were significantly higher in the subsurface soil sample collected from the eastern portion of the north landfill area.

Heavy metals (beryllium, chromium, copper and lead) were detected in all subsurface soil samples collected. Barium, beryllium, cadmium, chromium, copper and zinc were detected at levels greater than three times the background level in the subsurface soil sample collected from the eastern portion of the north landfill area. Chromium, beryllium, selenium, and copper were detected at levels greater than three times the background level

in the subsurface soil collected from the western portion of the north landfill area.

Cyanide was detected only at estimated levels of 94 and 0.68 mg/kg, in subsurface soil samples collected from the eastern portion of the north landfill area and top of the east landfill areas, respectively.

Key analytical findings are summarized in Table 3-3.

3.5 CONCLUSIONS

The soil samples collected from the top of the east landfill and the eastern property boundary have little or no contamination. Results of subsurface soil sampling collected from the northern landfill area indicate a number of volatile, semi-volatile and pesticide compounds were present at estimated concentration levels that were not detected in the background soil sample. The significant concentrations of metals were also present in soil samples collected from the northern landfill area. The levels of contaminants detected were significantly higher in soil samples collected from the eastern portion of the north landfill area.

Based on these results, it can be concluded that hazardous substances were landfilled in the north landfill area.

TABLE 3-3

Key Analytical Findings of Soil Sampling
Sanyo E and E Corporation
Richmond, Indiana

Field Sample Number	Depth Feet	Sample Location	Compound Detection	Concentration	Background Concentration
SB01-01	2-4	Western Portion of the North Landfill	1,2-Dichloroethene (total)	120 µg/kg	<11 µg/kg
			Aroclor-1254	890 µg/kg	<39 µg/kg
			Aroclor-1260	650 µg/kg	<39 µg/kg
			Beryllium	2.6 mg/kg	0.8B mg/kg
			Chromium	208 mg/kg	18.3 mg/kg
			Copper	112 mg/kg	22.5 mg/kg
			Selenium	1.9 mg/kg	<0.36 mg/kg
SB02-01-MSD	2-4	Eastern portion of the north landfill	Xylene(total)	7900 µg/kg	<11 µg/kg
			1,2-Dichloroethene (total)	4200 µg/kg	<11 µg/kg
			Naphthanlene[1]	2,000 J µg/kg	<370 µg/kg
			2-methylnaphthalene[1]	1,100 J µg/kg	<370 µg/kg
			Phenanthrene[1]	2,000 J µg/kg	29 J µg/kg
			Aroclor-1254[1]	6600 µg/kg	<39 µg/kg

TABLE 3-3

Key Analytical Findings of Soil Sampling
Sanyo E and E Corporation
Richmond, Indiana
(Continued)

Field Sample Number	Depth Feet	Sample Location	Compound Detection	Concentration	Background Concentration
SB02-01-MSD (continued)			Aroclor-1260[1]	1700 µg/kg	<39 µg/kg
			Barium	299 mg/kg	84.5 mg/kg
			Beryllium	3.1 mg/kg	0.8B mg/kg
			Cadmium	406 mg/kg	3.6 mg/kg
			Chromium	1330 mg/kg	18.3 mg/kg
			Copper	143 mg/kg	22.5 mg/kg
			Zinc	755 mg/kg	75.2 mg/kg
			Cyanide	94 mg/kg	<0.08 mg/kg
SB03-01	2-4	From top of the east landfill area	Magnesium	70500 mg/kg	6230 mg/kg

Note:

[1] - The organic fraction was analyzed as a medium level sample.

SECTION 4
GROUNDWATER PATHWAY

4.1 INTRODUCTION

This section discusses sampling locations, rationale, procedures and analytical results of monitoring well and residential well sampling performed during the SSI. Area well logs are provided in Appendix E.

4.2 HYDROGEOLOGIC SETTING

Bedrock in the Richmond, Indiana area is at an elevation of between 800 and 900 feet, according to a 1982 U.S. Geological Survey Map of Indiana showing topography of the bedrock surface (Reference 8). The depth of unconsolidated material in the Richmond area is between 0 and 50 feet, according to the U.S.G.S Map of Indiana showing thickness of unconsolidated deposits (Reference 9). This physiographic unit is characterized by brown to dark brown silt loam to clay loam with underlying material of yellowish brown loam to gravel (Reference 10).

Wells are generally finished in gravel and are 21 to 150 feet in depth. The groundwater flow on the property is probably east toward Springwood Lake and Whitewater River. Since there is a spring in the north portion of Springwood Lake Park, it is known to be a groundwater discharge area (Reference 1).

4.3 TARGETS

Residents within a 4-mile radius of the Sanyo E and E Corporation site obtain drinking water from either municipal wells or private wells. Area and population information of Richmond and Wayne County were obtained from the Richmond Engineering Department (Reference 11) and Richmond City Planning Commission (Reference 12). Water supply

information was obtained from Indiana American Water Company (Reference 13). The Water Company operates three plants in the Richmond area using surface water from the East Fork of White Water River and infiltration galleries for groundwater and spring water. All three plants are within a 4-mile radius of the site. Locations of the plants are shown in the 4-mile radius map of the site included in Appendix A. Tables 4-1 and 4-2 summarize information on public and private system supply sources. Approximately 32,200 people are served by the three Indiana American Water Company plants within a 4-mile radius of the site, while approximately 3,077 people are served by private wells within a 4-mile radius of the site.

4.4 GROUNDWATER SAMPLING LOCATIONS

One residential well water sample downgradient from the site was collected during the field sampling to determine whether operations at Sanyo E and E Corporation have impacted the groundwater. The residence sampled is located inside the Springwood Lake Park and is owned by the City of Richmond, Indiana Park District. This residence was occupied during the site reconnaissance but was unoccupied at the time of sampling. A production well owned by Sanyo Laser Products exists on-site. This well was sampled to determine if groundwater had been impacted by the buried materials in the landfill areas on the Sanyo property. A spring located at the north end of Springwood Lake Park was also sampled. This spring is located downgradient of the site and is a groundwater discharge point. The sampling locations are shown in Figure 4-1. The field sample number and their corresponding identification number and the rationale for sampling is presented in Table 4-3.

4.5 GROUNDWATER SAMPLING PROCEDURES

The residential well and production well were purged by turning the tap/spigot on for at least 20 minutes. The spring was sampled directly from the out-flow in the ground. Using portable field instruments, pH and temperature readings were taken in accordance with

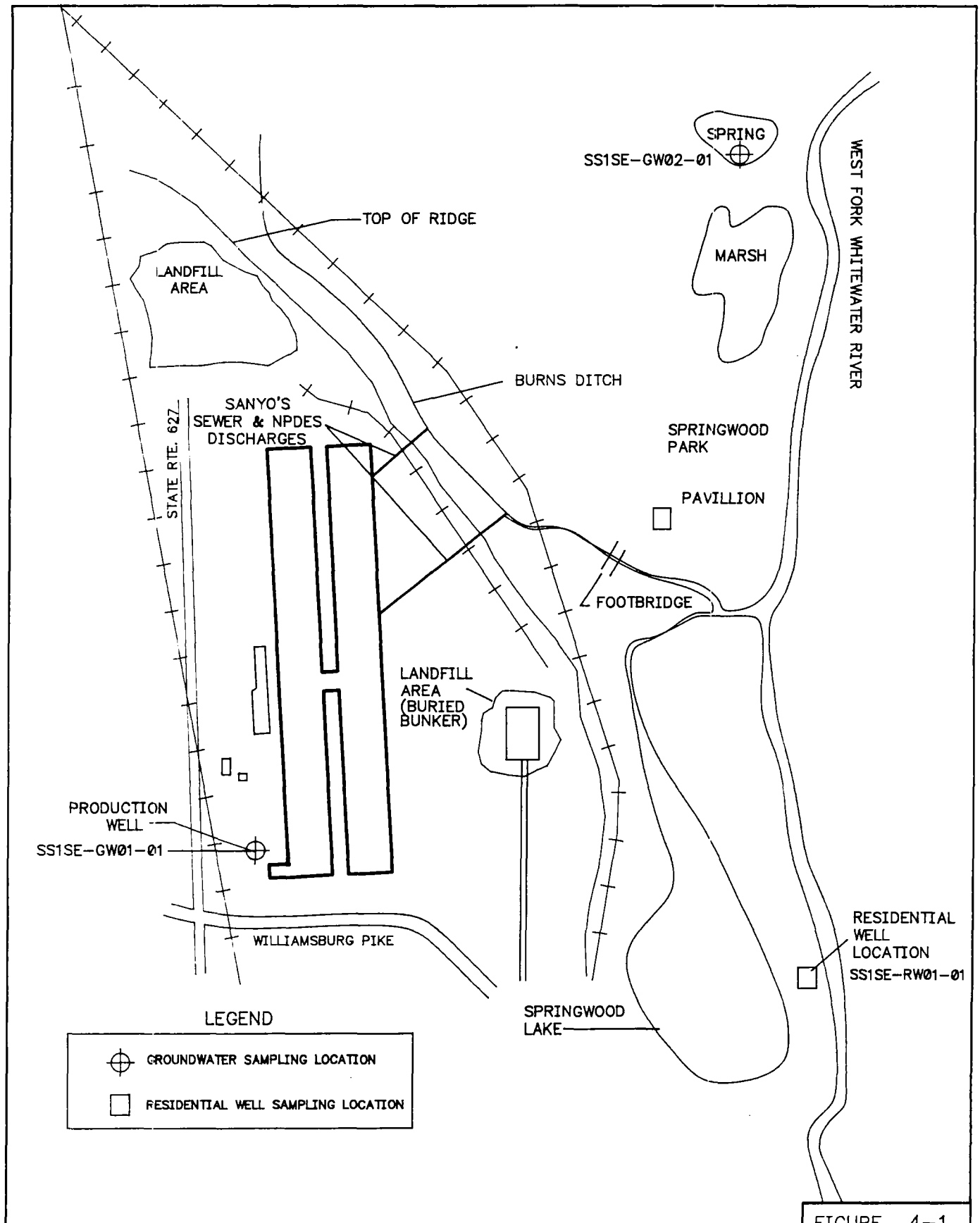

FIGURE 4-1

ALTERNATIVE REMEDIAL CONTRACTING STRATEGY
U.S. EPA CONTRACT No. 68-W8-0089
WORK ASSIGNMENT No. 45-5JZZ
DOCUMENT CONTROL No. 4500-45-AGFX

GROUNDWATER AND RESIDENTIAL WELL SAMPLING LOCATIONS
SANYO E & E CORPORATION
Richmond, Indiana

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TABLE 4-1

Public Water Supply Sources Within a 4-Mile Radius
Sanyo E and E Corporation
Richmond, Indiana

Source Name	Distance and Direction from Site	Approximate Population Served
Indiana American Water Co. - East Plant	2.5 miles east	10,207
1730 Silver Nook Plant	1.2 miles northeast	13,524
South Four and Kay St. Plant	3.2 miles south	8,468
	Total Population	32,199

TABLE 4-2

Private Well Users Within a 4-Mile Radius
Sanyo E and E Corporation
Richmond, Virginia

Radial Distance from the Site (Miles)	Approximate Population Served
0-1/4	64
1/4-1/2	42
1/2-1	170
1-2	582
2-3	862
3-4	1,357
	Total Population 3,077

TABLE 4-3

Residential Well and Production Well Sampling Locations and Rationale Sanyo E and E Corporation Richmond, Virginia

Field Sample Number	Traffic Report No.		Date and Time of Collection		Location/Rationale
	Organic	Inorganic			
RW01-01MSD	ERW23	MERP20	8/18/92	0956	Sampled to determine the impact of site operations from a vacant residence located southeast of the site.
RW01-01FB	ERW24	MERP21	8/18/92	0956	Field blank prepared at residence.
RW01-01DP	ERW25	MERP22	8/18/92	0956	Field duplicate at RW01 location.
GW01-01MSD	ERW18	MERP16	8/18/92	1350	Sanyo Laser Products production well located at the southwest corner of the production facilities. Sampled to determine the impact of site operations.
GW01-01FB*	ERW19	MERP17	8/18/92	1350	Duplicate of production well.
GW02-01	ERW20	MERP18	8/18/92	925	Spring located downgradient of the site at northern end of Springwood Lake Park. Sampled to determine the impact of site operations.
GW02-01DP	ERW21	MERP19	8/18/92	925	Field duplicate at GW02 location.
PWTB-03	ERW22	**	8/18/92	0956	Pure water trip blank.

* See text for sample identification.
** Inorganics are not required for trip blank.

procedures outlined in the QAPP (Reference 7), until all three parameters were stabilized for three consecutive readings.

A trip blank was prepared for the residential well (PWTB-03). It has been determined that a field blank was only collected for the residential well matrix (RW01-01FB). It should be noted that the water sample labeled as the groundwater field blank (GW01-01FB) was actually a duplicate of the investigative sample collected from the on-site production well. Field duplicates were collected at the residential well (RW01) sample location and the groundwater (GW02) sample location.

All samples were packaged and shipped in accordance with U.S. EPA-approved QAPP. The residential well samples were analyzed using the CLP for TCL compounds by S-Cubed Laboratories, San Diego, California and for TAL analytes by ETS Analytical Services, Roanoke, Virginia. The groundwater samples were analyzed for TCL compounds by McCoy and McCoy, Inc., Madisonville, Kentucky and for TAL analytes by Chester Labnet, Keystone Lab Monroeville, Monroeville, Pennsylvania.

4.6 ANALYTICAL RESULTS

Prior to taking well water samples, the pH and temperature were measured in the field as shown in Table 4-4. A summary of analytical results of residential well and groundwater sampling is shown in Table 4-5. Semi-volatiles, pesticides and PCBs were not detected in any of the samples collected.

The on-site production well sample contained levels of trichloroethene and total 1,2-dichloroethane at 1,300 and 96 μg/L, respectively. Analysis of the residential well sampled from the Springwood Lake detected vinyl chloride (23 μg/L), trans 1,2-dichloroethene (100 μg/L), and trichloroethene (5 μg/L). This well sample also contained very low levels of 1,1-dichloroethene and Cis 1,2-dichloroethene. No volatile organics were detected in the spring water collected from the Springwood Lake Park.

TABLE 4-4

Summary of Field Measurements of Residential Well and Groundwater Sampling Sanyo E and E Corporation Richmond, Indiana

Field Sample No.	pH (Units)	Temperature (°C)
RW01-01MSD; RW01-01DP	6.37/6.46/6.53	20.6/20.6/20.6
GW01-01MSD	*6.53/6.67/6.7/6.7*	*18.1/16.4/16/15.9*

TABLE 4-5

Analytical Results of Groundwater Sampling
Sanyo E and E Corporation
Richmond, Indiana

Parameters	Field Sample Number							
	RW01-01MSD	RW01-01DP	GW01-01MSD	GW01-01DP	GW02-01	GW02-01DP	PWTB-03	RW01-01FB
VOLATILES, ug/l								
Chloromethane	–	–	–	–	–	–	1J	05J
Vinyl Chloride	22D	23D	–	–	–	–	–	–
Methylene Chloride	–	–	–	–	–	–	–	0.9J
Acetone	–	–	–	–	–	–	2J	–
1,1-Dichloroethene	0.3J	0.3J	–	–	–	–	–	–
1,1-Dichloroethane	1	1	–	–	–	–	–	–
Cis 1-2-Dichlorothene	2	2	–	–	–	–	–	–
Trans 1,2-Dichloroethene	100D	110D	–	–	–	–	–	–
1,2-Dichloroethene (total)	–	–	96JD	94JD	–	–	–	–
1,2-Dichloroethane	–	2	2J	2J	–	–	2	1
Trichloroethene	5	5	1300D	1300D	–	–	–	–
METALS UNFILTERED,ug/l								
Arsenic	7.1	6.3	–	–	–	–	NA	–
Barium	222	214	–	–	–	–	NA	–
Calcium	–	–	110,000	110,000	92100	98400	NA	–
Chromium	–	–	6.5BJ	14.2J	–	12	NA	–
Copper	12.6	10.4	7.3BJ	9.2BJ	5.9B	8.5BJ	NA	–

TABLE 4-5

Analytical Results of Groundwater Sampling
Sanyo E and E Corporation
Richmond, Indiana
(Continued)

Parameters	Field Sample Number							
	RW01-01MSD	RW01-01DP	GW01-01MSD	GW01-01DP	GW02-01	GW02-01DP	PWTB-03	RW01-01FB
Iron	6020	5940	612	647	55.6B	108	NA	12.7B
Magnesium	39200	38100	38800	38700	35500	37900	NA	–
Manganese	635	629	31.5	31.4	2.4B	2.1B	NA	–
Nickel	–	–	–	8.6B*J	–	–	NA	–
Potassium	3260	3200	2470B	2620B	1150B	1200B	NA	571BJ
Selenium	–	–	2.6B	1.6B	–	–	NA	–
Sodium	29400	28900	19100	19100	9270	9970	NA	100B
Zinc	42.9	45.1	6.5B*J	9.6B*J	–	–	NA	–
Cyanide	–	–	30	30	–	–	NA	–

Organics

D - Sample was diluted to bring instrument response within the calibration range.
J - Value is estimated because it is below the contract required detection limit (CRDL) or because of a QC protocol.
– - Analyzed for but not detected above instrument detection limit.

Metals

J - Value is above contract required detection limit (CRDL) and is an estimated value because of a QC protocol.
B - Value is greater than the instrument detection limit but not than the contract required detection limit (CRDL).
* - Duplicate values outside QC protocols which indicates a possible matrix problem. Value is semi-quantitative.
– - Analyzed for but not detected above instrument detection limit.
NA - Not analyzed.

The on-site production well contained levels of several heavy metals including chromium (6.5 μg/L), copper (7.3 μg/L), selenium (2.6 μg/L) and zinc (6.5 μg/L). Cyanide was also detected at a level of 30 μg/L in the on-site production well. Copper (12.6 μg/L) and zinc (42.9 μg/L) were detected in the well located at the Springwood Lake Park. Analysis of the spring water collected from the Springwood Lake detected copper (5.9 μg/L). Chromium at 12 μg/L was only detected in the duplicate sample obtained from the spring water.

Since there is no background residential, monitoring or production well at the Sanyo site, a key analytical finding table has been prepared based on the results of soil sampling (Table 4-6). Only those compounds that were detected at levels greater than CRDL in groundwater and were also identified as the key analytical findings in soil sampling (Table 3-3) were included in Table 4-6.

4.7 CONCLUSIONS

The on-site production well contained trichloroethene, 1,2-dichloroethene, chromium, copper and selenium, which were also present in the subsurface soil sample collected from the northern portion of the landfill area. Even though the production well is not used for potable purposes, the presence of contamination in the on-site production well indicates that soil contamination has probably impacted the groundwater quality.

The well located in the Springwood Lake Park contained vinyl chloride and 1,2 dichloroethene at levels exceeding their respective maximum contamination level (Reference 14). It is not known if this well is used for potable purposes. This well could not have been impacted by any operations at the site, as it is located southwest of Burns ditch.

TABLE 4-6

Key Analytical Findings in Groundwater
Sanyo E and E Corporation
Richmond, Indiana

Field Sample Number	Sample Location	Compound	Concentration
RW01-01DP	Vacant residence located southeast of the site	Vinyl chloride	22 ug/L
		Barium	222 ug/L
		Copper	12.6 ug/L
		Zinc	42.9 ug/L
GW-01-01MSD	Sanyo production well	Trichloroethene	1,300 μg/L
		1,2-Dichloroethene	96 ug/L
		Cyanide	30 ug/L

SECTION 5
SURFACE WATER PATHWAY

5.1 INTRODUCTION

This section discusses the rationale for sampling, the procedures used for surface water and sediment sampling and the analytical results of sampling performed during the SSI.

5.2 HYDROLOGIC SETTING

The primary surface water feature in the Richmond, Indiana area is the Whitewater River. The West Fork of the Whitewater River is located approximately 2,000 feet east of the Sanyo site. Surface water runoff from the site drains into Burns ditch, which runs north and east of the site. This ditch is connected to the West Fork of the Whitewater River approximately 1,000 feet east of Springwood Lake. The West Fork of the Whitewater River drains into the Whitewater River approximately 1.2 miles southeast of the site. The nearest surface water intake is located on the Whitewater River approximately 2 miles upstream from the junction with the West Fork. A spring is located in the northern section of Springwood Lake Park downgradient of Sanyo Corporation.

5.3 TARGETS

There are no drinking water intakes located within 15 miles downstream of the site. The potential targets impacted by the surface water migration pathway are the flora and fauna inhabiting Springwood Lake and Burns ditch.

5.4 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS

Three surface water and three sediment samples were collected during the field investigation. The surface water and sediment sample locations are shown in Figure 5-1.

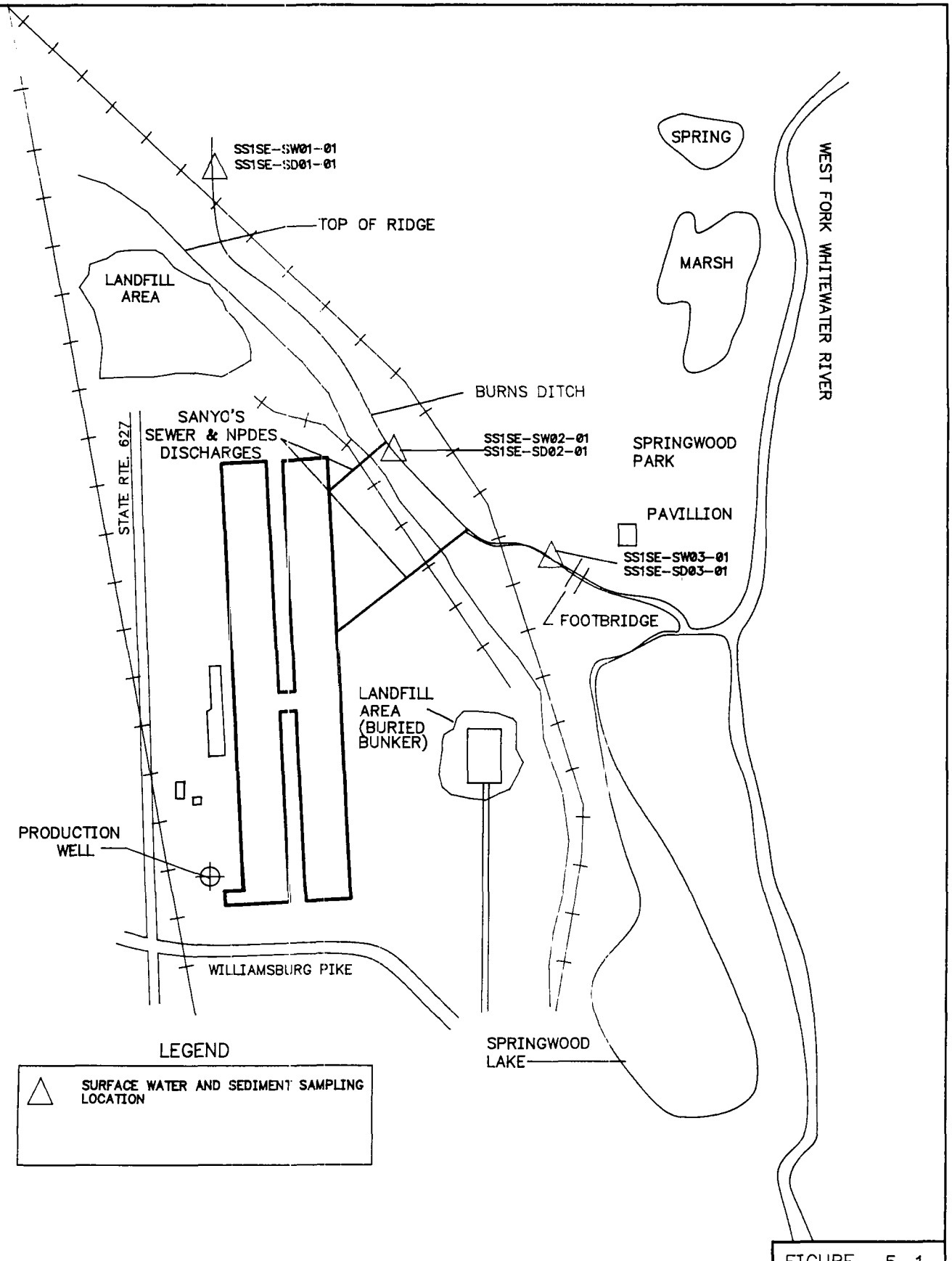

FIGURE 5-1

ALTERNATIVE REMEDIAL CONTRACTING STRATEGY U.S. EPA CONTRACT No. 68--W8--0089 WORK ASSIGNMENT No. 45--5JZZ DOCUMENT CONTROL No. 4500--45--AGFX	SURFACEWATER AND SEDIMENT SAMPLING LOCATIONS SANYO E & E CORPORATION Richmond, Indiana

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The rationale for the sample locations is presented in Table 5-1. This table also provides the organic and inorganic traffic report numbers.

Sediment samples were collected for identifying pollutants of low water solubility and high soil binding affinity. Surface water and sediment samples were collected at the discharge points of the outfalls from Sanyo into Burns ditch. Sediment samples SD01-01, SD01-01DP and surface water sample SW01-01 MSD were collected upgradient from the drainage points into Burns ditch and are used as the background sample for this investigation.

5.5 SAMPLING PROCEDURES

All sediment samples were collected from 0-12 inch below ground surface (bgs). The sediment sampling procedure was the same as outlined for soil sampling. Decontamination of sampling equipment used the same procedures as those used for the soil sampling.

Surface water samples were collected as a single grab sample taken at mid-depth in the center of the channel. Measurements of pH, temperature and conductivity were taken on each grab sample. Sampling of Burns ditch progressed from upstream to downstream to eliminate sediment disturbance in downgradient locations.

All samples were packaged and shipped in accordance with procedures included in the U.S. EPA-approved QAPP. The sediment samples were analyzed using the CLP for TCL compounds by McCoy and McCoy, Inc., Madisonville, Kentucky and for TAL analytes by Chester Labnet-Keystone Lab, Monroeville, Pennsylvania. The surface water samples were analyzed using the CLP for TCL compounds by Western Research Institute, Laramie, Wyoming and for TAL analytes by American Analytical and Technical Services, Broken Arrow, Oklahoma.

Table 5-1

Surface Water/Sediment Sampling Locations and Rationale
Sanyo E and E Corporation
Richmond, Indiana

Field Sample Number	Traffic Report No.		Date and Time of Collection		Location/ Rationale
	Organic	Inorganic			
PWTB-01	ERW 11	---	8/18/92	1600	Trip Blank
SW01-01 MSD	ERW 12	MERP 11	8/18/92	1600	Background surface water sample collected at upgradient location from Sanyo outfalls into Burns Ditch
SD01-01	ERW 07	MERP 07	8/18/92	1600	
SD01-01 DP	ERW 08	MERP 08	8/18/92	1600	Field duplicate at SD01 location
SW02-01 FB	ERW 14	MERP 13	8/18/92	1515	Field blank prepared at SW02 location
SW02-01	ERW 13	MERP 12	8/18/92	1515	Sampled to determine the impact of site operations on the quality of sediment and water at discharge point from Sanyo property into Burns Ditch
SD02-01 MSD	ERW 09	MERP 09	8/18/92	1515	
SW03-01	ERW 15	MERP 14	8/18/92	1445	Sampled to determine the impact of site operations on the quality of sediment and water at downgradient location from Sanyo outfall to Burns Ditch
SD03-01	ERW 10	MERP 10	8/18/92	1445	
SW-03-01 DP	ERW 16	MERP 15	8/18/92	1445	Field duplicate at SW03 location

SW - Surface water
SD - Sediment
PWTB - Pure Water Trip Blank

5.6 ANALYTICAL RESULTS

Prior to taking surface water samples, the pH and temperature were measured in the field as shown in Table 5-2. A summary of the analytical results of surface water and sediment sampling is shown in Table 5-3 and 5-4, respectively.

No contaminants were detected in the trip blank. Volatile organic compounds were detected in the surface water in estimated levels at the upgradient location (SW01-01 MSD), including Chloromethane, Chloroform, and 1,2-dichloroethane. Chloromethane and Chloroform were not detected in any downgradient surface water sampling locations. 1,2-dichloroethane was detected at very low levels only at two downgradient locations, SW-02 and SW-03, but the levels detected were lower than those found in the upgradient location.

Bis(2-ethylhexyl)phthalate was detected at very low levels only in the field blank collected at the downgradient location (SW-02). Pesticides/PCBs were not detected in any surface water samples.

A number of metals including aluminum, barium, and zinc were detected in most samples. In all cases, these metals were detected at the upgradient location at levels greater than those detected in the downgradient locations. Copper (25.9 µg/L) was detected only in the upgradient location.

Chloroform (at an estimated level) was detected only in the investigative upgradient sediment sample. 2-butanone was detected only in the sediment sample SD-02 at an estimated concentration of 18 µg/kg. Trichloroethene was detected in estimated levels in sediment samples collected from the upgradient location and from the discharge point from Sanyo outfall.

Many PAH compounds (including Phenanthrene, Fluoranthene, Pyrene, Benzo(a)-anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene, Indenopyrene, and

Table 5-2

Summary of Field Measurements of Surface Water
Sanyo E and E Corporation
Richmond, Indiana

Field Sample No.	pH, Units	Temperature, °C
SW01-01 MSD	8.23	24.5
SW02-01	8.27	24.6
SW03-01; SW03-01 DP	7.93	24.9

Table 5-3

Analytical Results of Surface Water Sampling
Sanyo E and E Corporation
Richmond, Indiana

Parameters	Field Sample Number				
	SW02-01	SW02-01FB	SW03-01	SW03-01DP	SW01-01MSD (Background)
VOLATILES, ug/L					
Chloromethane	–	–	–	–	2J
Chloroform	–	–	–	–	2J
1,2-Dichloroethane	2J	–	–	1J	5J
SEMIVOLATILES, ug/L					
bis(2-Ethylhexyl)phthalate	–	0.9J	–	–	–
METALS UNFILTERED, ug/L					
Aluminum	133BJ	112B	144BJ	151BJ	213J
Arsenic	3.6B	–	3.7B	3.0B	9.3BS
Barium	242	–	249	242	307
Calcium	78000	–	82200	79500	81000
Copper	–	–	–	–	25.9
Iron	876	9.9BJ	693	735	7130
Lead	–	–	–	–	18.2SNJ
Magnesium	29500	–	31000	30100	30300

TABLE 5-3

Analytical Results of Surface Water Sampling
Sanyo E and E Corporation
Richmond, Indiana
(Continued)

Parameters	Field Sample Number				
	SW02-01	SW02-01FB	SW03-01	SW03-01DP	SW01 01MSD (Background)
Manganese	22.6	--	19.2	19.0	128
Potassium	3730B	--	3660B	3870B	4000B
Sodium	21500	--	22700	22100	21300
Zinc	19.6BEJ	--	16.0BEJ	17.5BEJ	200EJ

Only detectable concentrations are reported as follows:

Organics

J - Value is estimated because it is below Contract Required Diction Limit (CRDL) or because of a QC protocol.
B - Compound found in the associated blank as well as in the sample. Value is semiquantitative.
-- - Analyzed for but not detected above instrument detection limit.

Metals

J - Value is above Contract Required Detection Limit (CRDL) and is an estimated value because of a QC protocol.
B - Value is greater than the instrument detection limit but less than the Contract Required Detection Limit (CRDL).
N - Spiked sample recovery outside control limits.
S - Analysis by method of standard additions. Value is quantitative.
E - Serial dilution GC audit percent difference is greater than 10%. Indicates a possible chemical or physical interference.
-- - Analyzed for but not detected above instrument detection limit.

TABLE 5-4

Analytical Results of Sediment Sampling
Sanyo E and E Corporation
Richmond, Indiana

Parameters	Field Sample Number			
	SD02-01MSD	SD03-01	SD01-01 (Background)	SD01-01DP (Background)
VOLATILES, ug/kg				
Chloroform	--	--	3J	--
2-Butanone	18J	--	--	--
Trichloroethene	4J	--	3J	3J
SEMIVOLATILES, ug/kg				
Phenanthrene	440J	--	1400J	--
Fluoranthene	800J	--	3400	580J
Pyrene	460J	--	1800	--
Benzo(a)anthracene	--	--	1200J	--
Chrysene	--	--	1300J	--
bis(2-Ethylhexyl)phthalate	3100J	--	--	--
Benzo(b)fluoranthene	--	--	1600J	--

TABLE 5-4

Analytical Results of Sediment Sampling
Sanyo E and E Corporation
Richmond, Indiana
(Continued)

Parameters	Field Sample Number			
	SD02-01MSD	SD03-01	SD01-01 (Background)	SD01-01DP (Background)
Benzo(a)pyrene	--	--	1700	--
Indeno(1,2,3-cd)pyrene	--	--	1200J	--
Benzo(g,h,i)perylene	--	--	1200J	--
PESTICIDES, ug/kg				
Dieldrin	--	--	0.45JP	--
METALS, mg/kg				
Aluminum	6810	4430	2780	2440
Arsenic	12.3	5.7J	7.5J	3.5J
Barium	75.0	53.1B	79.4	35.9B
Beryllium	0.84B	0.67B	0.62B	0.61B
Cadmium	6.7	--	--	--

TABLE 5-4

Analytical Results of Sediment Sampling
Sanyo E and E Corporation
Richmond, Indiana
(Continued)

Parameters	Field Sample Number			
	SD02-01MSD	SD03-01	SD01-01 (Background)	SD01-01DP (Background)
Calcium	51200	61100	82600	93100
Chromium	36.2	29.2	21.1	21.0
Cobalt	5.7B	3.7B	2.1B	1.7B
Copper	112	40.9	27.3	17.6
Iron	14400	10800	7730	7970
Lead	7175*J	104*J	87.4*J	29.9*J
Magnesium	21600	24300	30200	38600
Manganese	514NJ	350NJ	401NJ	431NJ
Nickel	38.9	22.3	11.3	9.1B
Potassium	983B	735B	527B	427B
Selenium	0.91B	0.38B	--	--
Silver	0.91B	--	--	--
Sodium	144B	148B	180B	189B

TABLE 5-4

Analytical Results of Sediment Sampling
Sanyo E and E Corporation
Richmond, Indiana
(Continued)

Parameters	Field Sample Number			
	SD02-01MSD	SD03-01	SD01-01 (Background)	SD01-01DP (Background)
Thallium	0.52B	0.38B	--	0.31B
Vanadium	14.3	13.7B	9.3B	8.5B
Zinc	798	193	105	97.3

Organics

J - Value is estimated because it is below Contract Required Detection Limit (CRDL) or because of a QC protocol.
P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two columns. The lower of the two values is used.
-- - Analyzed for but not detected above instrument detection limit.

Metals

J - Value is above CRDL and is an estimated value because of a QC protocol.
B - Value is greater than the instrument detection limit but less than CRDL.
N - Spiked sample recovery outside control limits.
* - Duplicate value outside QC protocols which indicates a possible matrix problem. Value is semi-quantitative.
-- - Analyzed for but not detected above instrument detection limit.

Benzoperylene) were detected at levels between 1,200 and 3,400 µg/kg in the upgradient sediment location. Phenanthrene (440 µg/kg), Fluoranthene (800 µg/kg), and Pyrene (460 µg/kg) were detected in the sediment collected near the discharge of Sanyo outfall into Burns ditch. In all cases, the levels detected were significantly lower than those found in the upgradient location. Bis(2-ethylhexyl)phthalate (3,100 µg/kg) was detected only in the sediment sample collected near the discharge of Sanyo outfall. No semivolatile organic compounds were detected in the downgradient sediment sample SD-03.

Only one pesticide, Dieldrin (0.45 µg/kg), was detected in the upgradient sediment sample.

A variety of metals was found in the sediment sample at levels either comparable or lower than those detected in the upgradient sediment sample. The following metals were detected in the downgradient sediment sample near the discharge of Sanyo outfall (SD-02) at levels greater than three times the background concentration:

- copper
- cadmium
- lead
- nickel
- zinc

The key analytical findings for sediment samples is summarized in Table 5-5. No key analytical findings for the surface water were identified because upgradient sample location had higher levels of contamination compared to the downgradient locations.

5.7 CONCLUSIONS

Comparison of the analytical results of the samples collected from upgradient and downgradient locations indicate that surface water quality is not being impacted by the site operations.

TABLE 5-5

Key Analytical Findings in Sediments
Sanyo E and E Corporation
Richmond, Indiana

Field Sample Number	Sample Location	Compound Detected	Concentration	Background Concentration
SD02-01	Sample collected at discharge point from Sanyo property into Burns Ditch.	Cadmium	6.7 mg/kg	<0.48 mg/kg
		Copper	112 mg/kg	27.3 mg/kg
		Lead	7175 mg/kg	87.4 mg/kg
		Nickel	38.9 mg/kg	11.3 mg/kg
		Zinc	798 mg/kg	105 mg/kg

The sediment quality near the discharge of outfall from the site has been impacted as determined by the presence of several metals at levels greater than three times those found in the upgradient location. This suggests that site operations have impacted the sediment quality.

The presence of both organic and inorganic contaminants in the Burns ditch sediment upgradient of the site could not be attributed to the site.

SECTION 6
SOIL EXPOSURE AND AIR PATHWAYS

6.1 INTRODUCTION

This section discusses the physical conditions present and the potential soil and air targets near the site.

6.2 PHYSICAL CONDITIONS

The Sanyo E and E Corporation site is currently an operational facility conducting manufacturing and warehousing. The site is secured with a fence, and a security guard is on duty during working hours. Landfilling activity is documented to have occurred on the north and east side of the property.

6.3 TARGETS

There are 64 residents living within 1/4 mile of the site. The 4-mile radius map indicates that the area around the site is both urban (Richmond) and rural (Wayne County). The population density of Richmond is 2,040 people per square mile and the population density of Wayne County outside the Richmond area is 82 people per square mile. An average number of people per residence for Richmond is 2.65. The population data was obtained from the Richmond City Planning Commission (Reference 12) and the Richmond engineering department (Reference 11). There are approximately 30,514 people within a 4-mile radius of the site. 132 acres of wetlands is located within 1 mile of the site.

Table 6-1 summarizes approximate population distribution within a 4-mile radius of the site.

TABLE 6-1

Population Within a 4-Mile Radius
Sanyo E and E Corporation
Richmond, Indiana

Radial Distance from the Site (Miles)	Approximate Population
0-1/4	64
1/4-1/2	192
1/2-1	771
1-2	5,385
2-3	11,537
3-4	12,565
Total Population	30,514

6.4 AIR ANALYTICAL RESULTS

No formal air monitoring was conducted during the SSI. The potential for contamination migration via the air pathway is present only from the north landfill area where significant volatile compound concentrations were detected.

6.5 SOIL ANALYTICAL RESULTS

The results of subsurface soil sampling discussed in Section 3 indicate contamination by several organics and metals. Due to the inaccessibility of the landfill areas at the site, there is no likelihood of any exposure to the contaminated soils.

6.6 CONCLUSIONS

The site has been a manufacturing facility since the 1930s. There is no indication of a release to the air pathway, although the potential for a release exists. Analytical results of soil sampling indicate that contamination of soils in the landfill area is not likely to pose any problem, due to its inaccessibility.

SECTION 7
SUMMARY AND CONCLUSIONS

The Sanyo E and E Corporation SSI was conducted to gather data necessary to evaluate the site as an NPL candidate. Environmental samples were collected for analysis to characterize substances at the site and investigate potential migration pathways. Information was also gathered to confirm target populations and environments potentially at risk from the site.

The site has a history of various manufacturing operations since the 1930s. These operations generated spent solvents (methylene chloride, toluene, ethyl alcohol and trichloroethene), spent acids/bases (phosphoric and potassium hydroxide), paint wastes and heavy metals (zinc, nickel and chromium). The waste handling procedures of the various companies that operated at the site is unknown. Sanyo E and E Corporation waste handling procedures have impacted the local environment through discharge of wastewaters from manufacturing processes into Burns Ditch and dumping fly ash over the neighboring area in February of 1988.

Results of soil sampling indicate that subsurface soils at the site contain a number of organic compounds at significant estimated concentrations, and a wide variety of metals at considerable levels. Varying levels of copper, nickel, lead, vanadium, and zinc detected in the sediment sample collected from the Sanyo E and E Corporation discharge point suggests that surface water migration pathway (via sediments) may be of concern at this site. Vinyl chloride and trans-1,2-Dichloroethene were detected in the residential well located in Springwood Lake Park. However, it is not known that the well located in the Springwood Lake Park is used for potable purposes. Since this well is located southwest of the Burns ditch, it could not have been impacted by any site operations. The potential for contamination migration via the air pathway may exist in future based on the levels of volatile organic compounds in the soil.

SECTION 8

REFERENCES

1. U.S. EPA, 9 May 1988, Potential Hazardous Waste Site Preliminary Assessment for Sanyo Site (EPA Form 202), U.S. EPA ID: IND 987322078, prepared by Mary Anne Hunter of IDEM.

2. Ms. Colleen Hart, Approval of Sanyo E and E Corporation, IND 087032207, 20 March 1992.

3. USGS Richmond Topographic Map, 1962

4. USGS "Topo" New Paris 1962

5. USGS Whitewater Topographic Map, 1950, Photo revised 1968

6. U.S. EPA, 9 July 1992, CERCLIS-Based Report: The Alpha One Liner Report for Indiana.

7. Quality Assurance Project Plan for Superfund Site Assessment, October 1991.

8. U.S. Geological Survey, Map of Indiana showing topography of the bedrock surface, 1982.

9. U.S. Geological Survey, Map of Indiana showing thickness of unconsolidated deposits, 1973.

10. U.S. Department of Agriculture, Soil Survey for Wayne County, Indiana August 1987.

11. Phone Conversation, Richmond Engineering Department, 12 December 1991.

12. Phone Conversation, Richmond Planning Commission, 12 December 1991.

13. Phone Conversation, Mr. Ken Alate, Indiana American Water Company, 13 December 1991.

14. Drinking Water Regulations and Health Advisories, Office of Water, U.S. EPA, April 1992.

APPENDIX A

4-MILE RADIUS MAP

SDMS US EPA Region V

Imagery Insert Form

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APPENDIX A – 4 MILE RADIUS MAP

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APPENDIX B

EPA FORM 2070-13

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE: IND | 02 SITE NUMBER: 05TC32207

II. SITE NAME AND LOCATION

01 SITE NAME	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
SANYO E&E corporation	1767 Sheridan Street

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Richmond	IN	47374	WAYNE	177	10

09 COORDINATES: LATITUDE 39°51'30".N | LONGITUDE 084°54'33".N

10 TYPE OF OWNERSHIP: ☒ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
— / / (MONTH DAY YEAR)	☒ ACTIVE ☐ INACTIVE	Prior to 1935 (BEGINNING YEAR) / Current (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION: ☐ A. EPA ☒ B. EPA CONTRACTOR ROY F WESTON INC. ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ ☐ E. STATE ☐ F. STATE CONTRACTOR _____ ☐ G. OTHER _____

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO
Jeff Watson	Environmental Scientist	WESTON	(708) 918-4000
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Tracy Harding	Geologist	WESTON	(708) 918-4000
Linda Korobka	chemist	WESTON	(708) 918-4000
Amy Steele	Ecologist	WESTON	(708) 918-4000
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Carla Mayer	Sanyo Of. managers	—	( ) —
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	2-19-92 & 8-18-92	—

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Harry Atkinson	IDEM	(317) 232-8428

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
OMPRAKASH S. PATEL	U.S. EPA	WESTON	708-918-4000	3 3 92 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	CRT032207

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [ ] A SOLID
- [ ] B POWDER, FINES
- [ ] C SLUDGE
- [ ] E SLURRY
- [x] F LIQUID
- [ ] G GAS
- [ ] D OTHER _____ (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: Unknown

CUBIC YARDS: _____

NO. OF DRUMS: _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [x] A TOXIC
- [x] B CORROSIVE
- [ ] C RADIOACTIVE
- [x] D PERSISTENT
- [ ] E SOLUBLE
- [ ] F INFECTIOUS
- [x] G FLAMMABLE
- [x] H IGNITABLE
- [x] I HIGHLY VOLATILE
- [ ] J EXPLOSIVE
- [x] K REACTIVE
- [ ] L INCOMPATIBLE
- [ ] M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS	50,600	lbs/48	As Per SA
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	11,750	lbs/48	As Per SA
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently used CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	See Section 3 of the Narrative				

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	Unknown		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

IDEM File Information
Preliminary Assessment prepared by IDEM, 5/9/86
WESTON SSI conducted in August 1982.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IN | 02 SITE NUMBER: IN 7032207

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION | 02 ☒ OBSERVED (DATE: Aug 1992) | ☐ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 35,276
04 NARRATIVE DESCRIPTION

See Section H of the Narrative

01 ☒ B. SURFACE WATER CONTAMINATION | 02 ☒ OBSERVED (DATE: Aug 1992) | ☐ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 30,546
04 NARRATIVE DESCRIPTION

See Section 5 of the Narrative

01 ☒ C. CONTAMINATION OF AIR | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 30,276
04 NARRATIVE DESCRIPTION

See section 6 of the Narrative.

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 30,276
04 NARRATIVE DESCRIPTION

No records of expose conditions on site, however, munition waste may have been landfilled.

01 ☒ E. DIRECT CONTACT | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 1059
04 NARRATIVE DESCRIPTION

There is low potential for onsite workers to come in direct contact of waste.

01 ☒ F. CONTAMINATION OF SOIL | 02 ☒ OBSERVED (DATE: 15 Aug 1992) | ☐ POTENTIAL | ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: Unknown (Acres)
04 NARRATIVE DESCRIPTION

See section 3 of the narrative.

01 ☒ G. DRINKING WATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 35,276
04 NARRATIVE DESCRIPTION

See Section H of the narrative

01 ☒ H. WORKER EXPOSURE/INJURY | 02 ☐ OBSERVED (DATE: _____) | ☒ POTENTIAL | ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: ~32
04 NARRATIVE DESCRIPTION

No onsite workers may potentially come in direct contact of contaminated soil.

01 ☒ I. POPULATION EXPOSURE/INJURY | 02 ☐ OBSERVED (DATE: _____) | ☐ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 35,276
04 NARRATIVE DESCRIPTION

See section A through H above.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IND | 02 SITE NUMBER: 057032207

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☒ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION
There are no reports of damage to flora.

01 ☒ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include names of species)
There is potential for damage to fauna inhabitating in Burns ditch and Springwood Lake.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None reported.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 35,276
04 NARRATIVE DESCRIPTION
The landfills do not have liner or leachate collection systems.

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION
The discharge to the ditch may have impacted offsite property.

01 ☒ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Storm water discharges to sewer, ditch, Lake

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☒ ALLEGED
04 NARRATIVE DESCRIPTION
Barrel burial probably in 1971 - 1972.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
If the waste from munitions operation were dumped then there may be an explosion hazard.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 35,276

IV. COMMENTS
If munitions are dumped in the landfill an explosion hazard exists.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
WESTON SSI in August 1992
Preliminary Assessment prepared by IDEM
IDEM File Information

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	057032207

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☒ A. NPDES	Unknown	1 April 1989	17 August 1990	The permit was voided by IDEM.
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND	Unknown	
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL	Unknown	
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER Spill (Specify)	Unknown	

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☒ H. OTHER Unknown (Specify)

05 OTHER

- ☒ A. BUILDINGS ON SITE

06 AREA OF SITE

~ 10 (Acres)

07 COMMENTS

None

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC

The site does not have any liners or leachate collection system.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

The wastes are easily accessible, Coal Ash and discolored soils were observed during Recon Inspection.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

IDEM File Information
SSI by Weston August 1990

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

EPA

I. IDENTIFICATION
01 STATE: IN | 02 SITE NUMBER: 05/022107

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as appropriate)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ■
NON-COMMUNITY	C. ☐	D. ■

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ■
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE
A. ~1.2 (mi)
B. ~0.4 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)
■ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 35,276

03 DISTANCE TO NEAREST DRINKING WATER WELL _____ (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
~10 (ft)	Unknown	~10 (ft)	Unknown (gpd)	☐ YES ■ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and their relation to population and buildings)
See Narrative Section 4

10 RECHARGE AREA		11 DISCHARGE AREA	
■ YES	COMMENTS: On site one capable of recharging underlying aquifer	☐ YES	COMMENTS
☐ NO		■ NO	

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)
■ A. RESERVOIR, RECREATION, DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Bless Ditch	=	~0.2 (mi)
West Fork of White River	=	~0.4 (mi)
White River	=	~1.2 (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 32 1039 (NO OF PERSONS)	B. 64214 (NO OF PERSONS)	C. 17981 (NO OF PERSONS)

02 DISTANCE TO NEAREST POPULATION
On site (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE
~2300

04 DISTANCE TO NEAREST OFF-SITE BUILDING
0.3 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)
See Section 2 and 3 of Narrative.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	057C32207

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
~150 (ft)	> 4 (ft)	Unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
Unknown (in)	Unknown (in)	Unknown %	~East	Unknown %

09 FLOOD POTENTIAL

SITE IS IN Unknown YEAR FLOODPLAIN

10 N/A

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. > 4 (mi)	B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

N/A (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 0.4 (mi)	B. 0-4 (mi)	C. Unknown (mi)	D. Unknown (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

See Appendix A

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling results)

IDEM File Information.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	057 032 207

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	Two	See Section 4 of Narrative	Nov 1992
SURFACE WATER	three	See Section 5 of Narrative	Nov 1992
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	Four	See Section 3 of Narrative	Nov 1992
VEGETATION			
OTHER Sediments	Three	See Section 5 of Narrative	Nov 1992

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
pH	See Table 4-4 in section 4 of Narrative
Temp	

IV. PHOTOGRAPHS AND MAPS

01 TYPE ■ GROUND □ AERIAL

02 IN CUSTODY OF WESTON
(NAME OF ORGANIZATION OR INDIVIDUAL)

03 MAPS ■ YES □ NO

04 LOCATION OF MAPS WESTON

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None

VI. SOURCES OF INFORMATION (Cite references, e.g., state files, sampling reports)

SSI by WESTON, August 1992

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	087C32207

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Sanyo E&E Corp.	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
1767 Sheridan ST	

05 CITY	06 STATE	07 ZIP CODE
Richmond	IN	-

08 YEARS OF OPERATION	09 NAME OF OWNER
> 6 years	Sanyo E&E corp

OPERATOR'S PARENT COMPANY (if applicable)

10 NAME	11 D+B NUMBER
Unknown	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Avco (Crosley)		Unknown	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
Unknown			

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Design & Manufacturing		Unknown	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
Unknown			

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
Absecon Construction		Unknown	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
Unknown			

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EIT SSI August 1992

Preliminary Assessment prepared by IDEM

IDEM File Information.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	057032207

II. CURRENT OWNER(S) / **PARENT COMPANY**

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
SANYO E&E corp.		Unknown	
03 STREET ADDRESS	**04 SIC CODE**	**10 STREET ADDRESS**	**11 SIC CODE**
1767 Sheridan St			
05 CITY / 06 STATE / 07 ZIP CODE		**12 CITY / 13 STATE / 14 ZIP CODE**	
Richmond, IN			
01 NAME		**08 NAME**	
N/A		N/A	
01 NAME		**08 NAME**	
N/A		N/A	
01 NAME		**08 NAME**	
N/A		N/A	

III. PREVIOUS OWNER(S) (List most recent first) / **IV. REALTY OWNER(S)** (If applicable; list most recent first)

01 NAME	03 STREET ADDRESS	05 CITY	06 STATE	07 ZIP CODE	01 NAME (Realty)
Avco (Crosley)	Unknown				N/A
Design & Manufacturing	Unknown				N/A
Absocold Corporation	Unknown				N/A

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT SSI on August 1992

Preliminary Assessment by IDEM

IDEM File information.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	057032267

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
SANYO E&E Corporation	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
1767 Sheridan ST.	

05 CITY	06 STATE	07 ZIP CODE
Richmond	IN	

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
None			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
Unknown			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: IND | 02 SITE NUMBER: 0870032207

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION: See section 2 of the Narrative	02 DATE	03 AGENCY
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ L. ENCAPSULATION 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION: N/A	02 DATE	03 AGENCY
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION: N/A	02 DATE	03 AGENCY

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: IND | 02 SITE NUMBER: 05703226?

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ S. CAPPING/COVERING — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
see section 2 of the narrative

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ V. BOTTOM SEALED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ W. GAS CONTROL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ X. FIRE CONTROL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ Y. LEACHATE TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ Z. AREA EVACUATED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE N/A — 03 AGENCY ____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION
N/A

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

Two USTs and three PCB transformers were removed from the site. Approximately 131 waste drums were removed. Asbestos was removed from both warehouses.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sampling results)

IDEM File information
FIT SSI August 1992.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D089032207

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

N/A

III. SOURCES OF INFORMATION (Cite specific reports, e.g., State files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

APPENDIX C

PHOTOGRAPHS

SITE NAME: SANYO E AND E CORPORATION PAGE 1 OF 8

U.S. EPA ID: IND 087032207

DATE: 2/19/92

TIME:

DIRECTION OF PHOTOGRAPH:
> West

WEATHER CONDITIONS:
> Rainy; cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > On east side of property - looking west. East bunker
> in foreground.

DATE: 2/19/92

TIME:

DIRECTION OF PHOTOGRAPH:
> East

WEATHER CONDITIONS:
> Rainy; cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > On east side of property - looking east at bunker.
>

62892

SITE NAME: SANYO E AND E CORPORATION

U.S. EPA ID: IND 087032207

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> West

WEATHER CONDITIONS:
> Rainy; cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > Looking west - railroad tracks running along eastern
> boundary of property.

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Rainy; cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > Construction debris at north eastern corner of
> Sanyo E and E Corporation facility.

62892

SITE NAME: SANYO E AND E CORPORATION PAGE 3 OF 8

U.S. EPA ID: IND 087032207

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> North

WEATHER CONDITIONS:
> Rainy; Cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > Construction debris along northern perimeter of
> property.

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> West

WEATHER CONDITIONS:
> Rainy; Cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > On east side of buiding, standing on bunker
> looking west.

62892

SITE NAME: SANYO E AND E CORPORATION PAGE 4 OF 8

U.S. EPA ID: IND 087032207

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> West

WEATHER CONDITIONS:
> Rainy; Cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > Standing on eastern shore, looking west at
> Springwood Lake.

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> West

WEATHER CONDITIONS:
> Rainy; cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > Standing in park - looking west at Springwood Lake.
>

62892

SITE NAME: SANYO E AND E CORPORATION PAGE 5 OF 8

U.S. EPA ID: IND 087032207

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Rainy; Cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > In center of photograph, storm pipe draining into
> Springwood Lake at south west corner.

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> North

WEATHER CONDITIONS:
> Rainy; Cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > Western perimeter of the property with Heating/Cooling
> Building on the right.

62892

SITE NAME: SANYO E AND E CORPORATION PAGE 6 OF 8

U.S. EPA ID: IND 087032207

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> East

WEATHER CONDITIONS:
> Rainy; Cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > On east wing of building - Heating oil tank removal
> area.

DATE: 2/19/92

TIME: _____

DIRECTION OF PHOTOGRAPH:
> East

WEATHER CONDITIONS:
> Rainy; Cool
>

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> —

DESCRIPTION: > On east wing of building - Underground Storage
> Tank removal area.

62892

SITE NAME: SANYO E AND E CORPORATION PAGE 7 OF 8

U.S. EPA ID: IND 087032207

DATE: 8/18/92

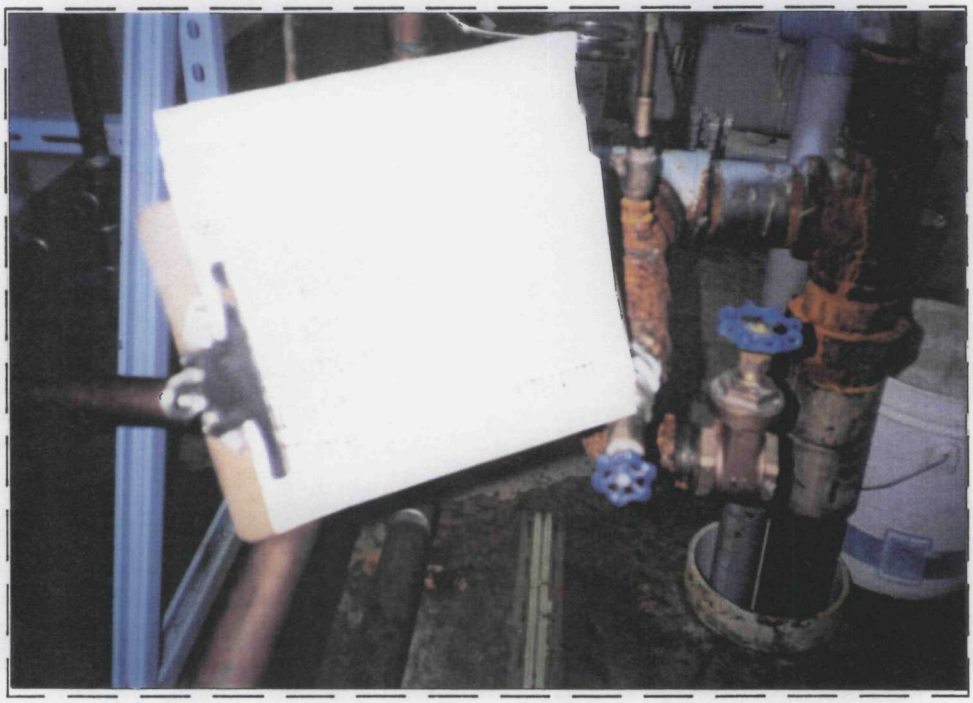
TIME: 1350

DIRECTION OF PHOTOGRAPH:
> —

WEATHER CONDITIONS:
> Partly Cloudy
> ~ 80°F

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> SS1SE-GW01-01



DESCRIPTION: > Close up of production well sample location, GW01-01.
> Collected at west wing of building

DATE: 8/18/92

TIME: 0956

DIRECTION OF PHOTOGRAPH:
> —

WEATHER CONDITIONS:
> Partly Cloudy
> ~ 80°F

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> SS1SE-RW01-01

DESCRIPTION: > Close up of RW01-01 sample location at residence
> inside Springwood Lake Park.

62892

U.S. EPA ID: IND 087032207

DATE: 8/18/92
TIME: 0942

DIRECTION OF PHOTOGRAPH:
> —

WEATHER CONDITIONS:
> Partly Cloudy
> ~ 80°F

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> SS1SE-GW02-01

DESCRIPTION: > Close up of GW02-01, the spring located at the north
> end of Springwood Lake Park.

DATE: 8/19/92
TIME: 1500

DIRECTION OF PHOTOGRAPH:
> —

WEATHER CONDITIONS:
> Sunny
> ~ 80°F

PHOTOGRAPHED BY:
> J. Watson

SAMPLE ID (if applicable):
> SS1SE-SB02-01 MSD

DESCRIPTION: > Close up of SB02-01 MSD, soil boring collected at
> north east corner of the property.

APPENDIX D

LIST OF TCL AND TAL COMPOUNDS

TARGET COMPOUND LIST (TCL) AND CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)

Volatiles	CAS Number	Quantitation Limits* Water ug/L	Low Soil ug/Kg	Med. Soil ug/Kg	On Column (ng)
1. Chloromethane	74-87-3	10	10	1200	(50)
2. Bromomethane	74-83-9	10	10	1200	(50)
3. Vinyl Chloride	75-01-4	10	10	1200	(50)
4. Chloroethane	75-00-3	10	10	1200	(50)
5. Methylene Chloride	75-09-2	10	10	1200	(50)
6. Acetone	67-64-1	10	10	1200	(50)
7. Carbon Disulfide	75-15-0	10	10	1200	(50)
8. 1,1-Dichloroethene	75-35-4	10	10	1200	(50)
9. 1,1-Dichloroethane	75-34-3	10	10	1200	(50)
10. 1,2-Dichloroethene (total)	540-59-0	10	10	1200	(50)
11. Chloroform	67-66-3	10	10	1200	(50)
12. 1,2-Dichloroethane	107-06-2	10	10	1200	(50)
13. 2-Butanone	78-93-3	10	10	1200	(50)
14. 1,1,1-Trichloroethane	71-55-6	10	10	1200	(50)
15. Carbon Tetrachloride	56-23-5	10	10	1200	(50)
16. Bromodichloromethane	75-27-4	10	10	1200	(50)
17. 1,2-Dichloropropane	78-87-5	10	10	1200	(50)
18. cis-1,3-Dichloropropene	10061-01-5	10	10	1200	(50)
19. Trichloroethene	79-01-6	10	10	1200	(50)
20. Dibromochloromethane	124-48-1	10	10	1200	(50)
21. 1,1,2-Trichloroethane	79-00-5	10	10	1200	(50)
22. Benzene	71-43-2	10	10	1200	(50)
23. trans-1,3-Dichloropropene	10061-02-6	10	10	1200	(50)
24. Bromoform	75-25-2	10	10	1200	(50)
25. 4-Methyl-2-pentanone	108-10-1	10	10	1200	(50)
26. 2-Hexanone	591-78-6	10	10	1200	(50)
27. Tetrachloroethene	127-18-4	10	10	1200	(50)
28. Toluene	108-88-3	10	10	1200	(50)
29. 1,1,2,2-Tetrachloroethane	79-34-5	10	10	1200	(50)
30. Chlorobenzene	108-90-7	10	10	1200	(50)
31. Ethyl Benzene	100-41-4	10	10	1200	(50)
32. Styrene	100-42-5	10	10	1200	(50)
33. Xylenes (Total)	1330-20-7	10	10	1200	(50)

* Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.

Note that the CRQL values listed on the preceding page may not be those

TARGET COMPOUND LIST (TCL) AND CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)

Semivolatiles	CAS Number	Quantitation Limits* Water ug/L	Low Soil ug/Kg	Med. Soil ug/Kg	On Column (ng)
34. Phenol	108-95-2	10	330	10000	(20)
35. bis(2-Chloroethyl) ether	111-44-4	10	330	10000	(20)
36. 2-Chlorophenol	95-57-8	10	330	10000	(20)
37. 1,3-Dichlorobenzene	541-73-1	10	330	10000	(20)
38. 1,4-Dichlorobenzene	106-46-7	10	330	10000	(20)
39. 1,2-Dichlorobenzene	95-50-1	10	330	10000	(20)
40. 2-Methylphenol	95-48-7	10	330	10000	(20)
41. 2,2'-oxybis (1-Chloropropane)#	108-60-1	10	330	10000	(20)
42. 4-Methylphenol	106-44-5	10	330	10000	(20)
43. N-Nitroso-di-n-propylamine	621-64-7	10	330	10000	(20)
44. Hexachloroethane	67-72-1	10	330	10000	(20)
45. Nitrobenzene	98-95-3	10	330	10000	(20)
46. Isophorone	78-59-1	10	330	10000	(20)
47. 2-Nitrophenol	88-75-5	10	330	10000	(20)
48. 2,4-Dimethylphenol	105-67-9	10	330	10000	(20)
49. bis(2-Chloroethoxy) methane	111-91-1	10	330	10000	(20)
50 2,4-Dichlorophenol	120-83-2	10	330	10000	(20)
51. 1,2,4-Trichlorobenzene	120-82-1	10	330	10000	(20)
52. Naphthalene	91-20-3	10	330	10000	(20)
53. 4-Chloroaniline	106-47-8	10	330	10000	(20)
54. Hexachlorobutadiene	87-68-3	10	330	10000	(20)
55. 4-Chloro-3-methylphenol	59-50-7	10	330	10000	(20)
56. 2-Methylnaphthalene	91-57-6	10	330	10000	(20)
57. Hexachlorocyclopentadiene	77-47-4	10	330	10000	(20)
58. 2,4,6-Trichlorophenol	88-06-2	10	330	10000	(20)
59. 2,4,5-Trichlorophenol	95-95-4	25	800	25000	(50)
60. 2-Chloronaphthalene	91-58-7	10	330	10000	(20)
61. 2-Nitroaniline	88-74-4	25	800	25000	(50)
62. Dimethylphthalate	131-11-3	10	330	10000	(20)
63. Acenaphthylene	208-96-8	10	330	10000	(20)
64. 2,6-Dinitrotoluene	606-20-2	10	330	10000	(20)
65. 3-Nitroaniline	99-09-2	25	800	25000	(50)
66. Acenaphthene	83-32-9	10	330	10000	(20)
67. 2,4-Dinitrophenol	51-28-5	25	800	25000	(50)
68. 4-Nitrophenol	100-02-7	25	800	25000	(50)

Previously known by the name bis(2-Chloroisopropyl) ether

Semivolatiles	CAS Number	Quantitation Limits* Water ug/L	Low Soil ug/Kg	Med. Soil ug/Kg	On Column (ng)
69. Dibenzofuran	132-64-9	10	330	10000	(20)
70. 2,4-Dinitrotoluene	121-14-2	10	330	10000	(20)
71. Diethylphthalate	84-66-2	10	330	10000	(20)
72. 4-Chlorophenyl-phenyl ether	7005-72-3	10	330	10000	(20)
73. Fluorene	86-73-7	10	330	10000	(20)
74. 4-Nitroaniline	100-01-6	25	800	25000	(50)
75. 4,6-Dinitro-2-methylphenol	534-52-1	25	800	25000	(50)
76. N-nitrosodiphenylamine	86-30-6	10	330	10000	(20)
77. 4-Bromophenyl-phenylether	101-55-3	10	330	10000	(20)
78. Hexachlorobenzene	118-74-1	10	330	10000	(20)
79. Pentachlorophenol	87-86-5	25	800	25000	(50)
80. Phenanthrene	85-01-8	10	330	10000	(20)
81. Anthracene	120-12-7	10	330	10000	(20)
82. Carbazole	86-74-8	10	330	10000	(20)
83. Di-n-butylphthalate	84-74-2	10	330	10000	(20)
84. Fluoranthene	206-44-0	10	330	10000	(20)
85. Pyrene	129-00-0	10	330	10000	(20)
86. Butylbenzylphthalate	85-68-7	10	330	10000	(20)
87. 3,3'-Dichlorobenzidine	91-94-1	10	330	10000	(20)
88. Benzo(a)anthracene	56-55-3	10	330	10000	(20)
89. Chrysene	218-01-9	10	330	10000	(20)
90. bis(2-Ethylhexyl)phthalate	117-81-7	10	330	10000	(20)
91. Di-n-octylphthalate	117-84-0	10	330	10000	(20)
92. Benzo(b)fluoranthene	205-99-2	10	330	10000	(20)
93. Benzo(k)fluoranthene	207-08-9	10	330	10000	(20)
94. Benzo(a)pyrene	50-32-8	10	330	10000	(20)
95. Indeno(1,2,3-cd)pyrene	193-39-5	10	330	10000	(20)
96. Dibenz(a,h)anthracene	53-70-3	10	330	10000	(20)
97. Benzo(g,h,i)perylene	191-24-2	10	330	10000	(20)

* Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.

TARGET COMPOUND LIST (TCL) AND CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)

Pesticides/Aroclors	CAS Number	Quantitation Limits* Water ug/L	Soil ug/Kg	On Column (pg)
98. alpha-BHC	319-84-6	0.05	1.7	5
99. beta-BHC	319-85-7	0.05	1.7	5
100. delta-BHC	319-86-8	0.05	1.7	5
101. gamma-BHC (Lindane)	58-89-9	0.05	1.7	5
102. Heptachlor	76-44-8	0.05	1.7	5
103. Aldrin	309-00-2	0.05	1.7	5
104. Heptachlor epoxide	1024-57-3	0.05	1.7	5
105. Endosulfan I	959-98-8	0.05	1.7	5
106. Dieldrin	60-57-1	0.10	3.3	10
107. 4,4'-DDE	72-55-9	0.10	3.3	10
108. Endrin	72-20-8	0.10	3.3	10
109. Endosulfan II	33213-65-9	0.10	3.3	10
110. 4,4'-DDD	72-54-8	0.10	3.3	10
111. Endosulfan sulfate	1031-07-8	0.10	3.3	10
112. 4,4'-DDT	50-29-3	0.10	3.3	10
113. Methoxychlor	72-43-5	0.50	17.0	50
114. Endrin ketone	53494-70-5	0.10	3.3	10
115. Endrin aldehyde	7421-36-3	0.10	3.3	10
116. alpha-Chlordane	5103-71-9	0.05	1.7	5
117. gamma-Chlordane	5103-74-2	0.05	1.7	5
118. Toxaphene	8001-35-2	5.0	170.0	500
119. Aroclor-1016	12674-11-2	1.0	33.0	100
120. Aroclor-1221	11104-28-2	2.0	67.0	200
121. Aroclor-1232	11141-16-5	1.0	33.0	100
122. Aroclor-1242	53469-21-9	1.0	33.0	100
123. Aroclor-1248	12672-29-6	1.0	33.0	100
124. Aroclor-1254	11097-69-1	1.0	33.0	100
125. Aroclor-1260	11096-82-5	1.0	33.0	100

* Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.

There is no differentiation between the preparation of low and medium soil samples in this method for the analysis of Pesticides/Aroclors.

INORGANIC TARGET ANALYTE LIST (TAL)

Analyte	Contract Required Detection Limit (1,2) (ug/L)
Aluminum	200
Antimony	60
Arsenic	10
Barium	200
Beryllium	5
Cadmium	5
Calcium	5000
Chromium	10
Cobalt	50
Copper	25
Iron	100
Lead	3
Magnesium	5000
Manganese	15
Mercury	0.2
Nickel	40
Potassium	5000
Selenium	5
Silver	10
Sodium	5000
Thallium	10
Vanadium	50
Zinc	20
Cyanide	10

Contract Laboratory Program
Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)
for Residential Well Water Analysis

Volatiles	CAS Number	Quantitation Limits Water ug/L
1. Chloromethane	74-87-3	1
2. Bromomethane	74-83-9	1
3. Vinyl chloride	75-01-4	1
4. Chloroethane	75-00-3	1
5. Methylene chloride	75-09-2	2
6. Acetone	67-64-1	5
7. Carbon disulfide	75-15-0	1
8. 1,1-Dichloroethene	75-35-4	1
9. 1,1-Dichloroethane	75-34-3	1
10. cis-1,2-Dichloroethene	156-59-4	1
11. trans-1,2-Dichloroethene	156-60-5	1
12. Chloroform	67-66-3	1
13. 1,2-Dichloroethane	107-06-2	1
14. 2-Butanone	78-93-3	5
15. Bromochloromethane	74-97-5	1
16. 1,1,1-Trichloroethane	71-55-6	1
17. Carbon tetrachloride	56-23-5	1
18. Bromodichloromethane	75-27-4	1
19. 1,2-Dichloropropane	78-87-5	1
20. cis-1,3-Dichloropropene	10061-01-5	1
21. Trichloroethene	79-01-5	1
22. Dibromochloromethane	124-48-1	1
23. 1,1,2-Trichloroethane	79-00-5	1
24. Benzene	71-43-2	1
25. trans-1,3-Dichloropropene	10061-02-6	1
26. Bromoform	75-25-2	1
27. 4-Methyl-2-pentanone	108-10-1	5
28. 2-Hexanone	591-78-6	5
29. Tetrachloroethene	127-18-4	1

TABLE D-1 (Cont.)

Contract Laboratory Program
Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)
for Residential Well Water Analysis

Volatiles	CAS Number	Quantitation Limits Water ug/L
30. 1,1,2,2-Tetrachloroethane	79-34-5	1
31. 1,2-Dibromoethane	106-93-4	1
32. Toluene	108-88-3	1
33. Chlorobenzene	108-90-7	1
34. Ethylbenzene	100-41-4	1
35. Styrene	100-42-5	1
36. Xylenes (total)	1330-20-7	1
37. 1,3-Dichlorobenzene	541-73-1	1
38. 1,4-Dichlorobenzene	106-46-7	1
39. 1,2-Dichlorobenzene	95-50-1	1
40. 1,2-Dibromo-3-chloropropane	96-12-8	1

Note: Except for Methylene chloride, the quantitation limits in this table are set at the concentrations in the sample equivalent to the concentration of the lowest calibration standard analyzed for each analyte.

In the cast of Methylene chloride, the CRQL value in this table is based on the lowest level of detection in samples contaminated with this common laboratory solvent that can be achieved by reasonable means in a production laboratory.

Contract Laboratory Program
Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)
for Residential Well Water Analysis

Pesticide/PCBs	CAS Number	Quantitation Limits Water ug/L
1. alpha-BHC	319-84-6	0.01
2. beta-BHC	319-85-7	0.01
3. delta-BHC	319-36-8	0.01
4. gamma-BHC (Lindane)	58-89-9	0.01
5. Heptachlor	76-44-8	0.01
6. Aldrin	309-00-2	0.01
7. Heptachlor epoxide	1024-57-3	0.01
8. Endosulfan I	959-98-8	0.01
9. Dieldrin	60-57-1	0.02
10. 4,4'-DDE	72-55-9	0.02
11. Endrin	72-20-8	0.02
12. Endosulfan II	33213-65-9	0.02
13. 4,4'-DDD	72-54-8	0.02
14. Endosulfan sulfate	1031-07-8	0.02
15. 4,4'-DDT	50-29-3	0.02
16. Methoxychlor	72-43-5	0.10
17. Endrin ketone	53494-70-5	0.02
18. Endrin aldehyde	7421-36-3	0.02
19. alpha-Chlordane	5103-71-9	0.01
20. gamma-Chlordane	5103-74-2	0.01
21. Toxaphene	8001-35-2	1.0
22. Aroclor-1016	12674-11-2	0.20
23. Aroclor-1221	11104-28-2	0.40
24. Aroclor-1232	11141-16-5	0.20
25. Aroclor-1242	53469-21-9	0.20
26. Aroclor-1248	12672-29-6	0.20
27. Aroclor-1254	11097-69-1	0.20
28. Aroclor-1260	11096-82-5	0.20

Contract Laboratory Program
Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)
for Residential Well Water Analysis

Semivolatiles	CAS Number	Quantitation Limits Water ug/L
1. Phenol	108-95-2	5
2. bis-(2-Chloroethyl)ether	111-44-4	5
3. 2-Chlorophenol	95-57-8	5
4. 2-Methylphenol	95-48-7	5
5. 2,2'-oxybis(1-Chloropropane)	108-60-1	5
6. 4-Methylphenol	106-44-5	5
7. N-Nitroso-di-n-propylamine	621-64-7	5
8. Hexachloroethane	67-72-1	5
9. Nitrobenzene	98-95-3	5
10. Isophorone	78-59-1	5
11. 2-Nitrophenol	88-75-5	5
12. 2,4-Dimethylphenol	105-67-9	5
13. bis-(2-Chloroethoxy)methane	11-91-1	5
14. 2,4-Dichlorophenol	120-83-2	5
15. 1,2,4-Trichlorobenzene	120-82-1	5
16. Naphthalene	91-20-3	5
17. 4-Chloroaniline	106-47-8	5
18. Hexachlorobutadiene	87-68-3	5
19. 4-Chloro-3-methylphenol	59-50-7	5
20. 2-Methylnaphthalene	91-57-6	5
21. Hexachlorocyclopentadiene	77-47-4	5
22. 2,4,6-Trichlorophenol	88-06-2	5
23. 2,4,5-Trichlorophenol	95-95-4	20
24. 2-Chloronaphthalene	91-58-7	5
25. 2-Nitroaniline	88-74-4	20
26. Dimethylphthalate	131-11-3	5
27. Acenaphthylene	208-96-8	5
28. 2,6-Dinitrotoluene	606-20-2	5
29. 3-Nitroaniline	99-09-2	20
30. Acenaphthene	83-32-9	5
31. 2,4-Dinitrophenol	51-28-5	20
32. 4-Nitrophenol	100-02-7	20

TABLE D-1 (Cont.)

Contract Laboratory Program
Target Compound List (TCL) and
Contract Required Quantitation Limits (CRQL)
for Residential Well Water Analysis

Semivolatiles	CAS Number	Quantitation Limits Water ug/L
33. Dibenzofuran	132-64-9	5
34. 2,4-Dinitrotoluene	121-14-2	5
35. Diethylphthalate	84-66-2	5
36. 4-Chlorophenyl-phenylether	7005-72-3	5
37. Fluorene	86-73-7	5
38. 4-Nitroaniline	100-01-6	20
39. 4,6-Dinitro-2-methylphenol	534-52-1	20
40. N-Nitrosodiphenylamine	86-30-6	5
41. 4-Bromophenyl-phenylether	101-55-3	5
42. Hexachlorobenzene	118-74-1	5
43. Pentachlorophenol	87-86-5	20
44. Phenanthrene	85-01-8	5
45. Anthracene	120-12-7	5
46. Di-n-butylphthalate	84-74-2	5
47. Fluoranthene	206-44-0	5
48. Pyrene	129-00-0	5
49. Butylbenzylphthalate	85-68-7	5
50. 3,3'-Dichlorobenzidine	91-94-1	5
51. Benzo(a)anthracene	56-55-3	5
52. Chrysene	218-01-9	5
53. bis-(2-Ethylhexyl)phthalate	117-81-7	5
54. Di-n-octyphthalate	117-84-0	5
55. Benzo(b)fluoranthene	205-99-2	5
56. Benzo(k)fluoranthene	207-08-9	5
57. Benzo(a)pyrene	50-32-8	5
58. Indeno(1,2,3-cd)pyrene	193-39-5	5
59. Dibenz (a,h)anthracene	53-70-3	5
60. Benzo(g,h,i)perylene	191-24-2	5

U.S. EPA Region V
Central Regional Laboratory
Organic Method Detection Limits
for Residential Well Water Analysis

Analyte	CAS Number	Method Detection Limit in Reagent Water (ug/L)
1. Benzene	71-43-2	1.5
2. Bromodichloromethane	75-27-4	1.5
3. Bromoform	75-25-2	1.5
4. Bromomethane	74-83-9	10
5. Carbon Tetrachloride	56-23-5	1.5
6. Chlorobenzene	108-90-7	1.5
7. Chloroethane	75-00-3	1.5
8. 2-Chloroethyl Vinyl Ether	110-75-8	1.5
9. Chloroform	67-66-3	1.5
10. Chloromethane	74-87-3	10
11. Dibromochloromethane	124-48-1	1.5
12. 1,1-Dichloroethane	75-34-3	1.5
13. 1,2-Dichloroethane	107-06-2	1.5
14. 1,1-Dichloroethene	75-35-4	1.5
15. 1,2-Dichloroethene (total)	540-59-0	1.5
16. 1,2-Dichloropropane	78-87-5	1.5
17. cis-1,3-Dichlopropropene	10061-01-5	2
18. trans-1,3-Dichloropropene	10061-02-6	1
19. Ethyl Benzene	100-41-4	1.5
20. Methylene Chloride[1]	75-09-2	1
21. 1,1,2,2-Tetrachloroethane	79-34-5	1.5
21. Tetrachloroethene	127-18-4	1.5
22. Toluene[1]	108-88-3	1.5
23. 1,1,1,-Trichloroethane	71-55-6	1.5
24. 1,1,2-Trichloroethane	79-00-5	1.5
25. Trichloroethene	79-01-6	1.5
26. Vinyl Cloride	75-01-4	10
27. Acrolein	107-02-8	100
28. Acetone[1]	67-64-1	75
29. Acrylonitrile	107-13-1	50

TABLE D-3 (Cont.)

U.S. EPA Region V
Central Regional Laboratory
Organic Method Detection Limits
for Residential Well Water Analysis

Analyte	CAS Number	Method Detection Limit in Reagent Water (ug/L)
30. Carbon Disulfide	75-15-0	3
31. 2-Butanone	78-93-3	(50)
32. Vinyl Acetate	108-05-4	15
33. 4-Methyl-2-Pentanone	108-10-1	(3)
34. 2-Hexanone	519-78-6	(50)
35. Styrene	100-42-5	1
36. m-Xylene	108-38-3	2
37. o-Xylene[2]	95-47-6	
38. p-Xylene[2]	106-42-3	2.5
39. Aniline	62-53-3	1.5
40. Bis(2-Chloroethyl)ether	111-44-4	1.5
41. Phenol	108-95-2	2
42. 2-Chlorophenol	95-57-8	2
43. 1,3-Dichlorobenzene	541-73-1	2
44. 1,4-Dichlorobenzene	106-46-7	2
45. 1,2-Dichlorobenzene	95-50-1	2.5
46. Benzyl Alcohol	100-51-6	2
47. Bis(2-Chloroisoprophyl) Ether	39638-32-9	2.5
48. 2-Methylphenol	95-48-7	1
49. Hexachloroethane	67-72-1	2
50. N-Nitrosodipropylamine	621-64-7	1.5
51. Nitrobenzene	98-95-3	2.5
52. 4-Methylphenol	106-44-5	1
53. Isophorone	78-59-1	2.5
54. 2-Nitrophenol	88-75-5	2
55. 2,4-Dimethylphenol	105-67-9	2
56. Bis(2-Chloroethoxy) Methane	111-91-1	2.5
57. 2,4-Dichlorophenol	120-83-2	2
58. 1,2,4-Trichlorobenzene	120-82-1	2
59. Naphthalene	91-20-3	2

U.S. EPA Region V
Central Regional Laboratory
Organic Method Detection Limits
for Residential Well Water Analysis

Analyte	CAS Number	Method Detection Limit in Reagent Water (ug/L)
60. 4-Chloroaniline	106-47-3	2
61. Hexachlorobutadiene	87-68-3	2.5
62. Benzoic Acid	65-85-0	(30)
63. 2-Methylnapthalene	91-57-6	2
64. 4-Chloro-3-Methylphenol	59-50-7	1.5
65. Hexachlorocyclopentadiene	77-47-4	2
66. 2,4,6-Trichlorophenol	88-06-02	1.5
67. 2,4,5-Trichlorophenol	95-95-4	1.5
68. 2-Chloronapthalene	91-58-7	1.5
69. Acenapthylene	208-96-8	1.5
70. Dimethyl Phthalate	131-11-3	1.5
71. 2,6-Dinitrotoluene	606-20-2	1
72. Fluorene	86-73-7	1
73. 4-Nitrophenol	100-02-7	1.5
74. 4-Chlorophenyl Phenyl Ether	7005-72-3	1
75. Acenaphthene	83-32-9	1.5
76. 3-Nitroaniline	99-09-2	2.5
77. Dibenzofuran	132-64-9	1
78. 2,4-Dinitrophenol	51-28-5	(15)
79. 2,4-Dinitrotoluene	121-14-2	1
80. Diethyl Phthalate	84-66-2	1
81. 4,6-Dinitro-2-Methylphenol	534-52-1	(15)
82. 1,2-Diphenylhydrazine	122-66-7	1
83. N-Nitrosodiphenylamine[3]	86-30-6	
84. Diphenylamine[3]	122-39-4	1.5
85. 4-Nitroaniline	100-01-6	3
86. 4-Bromophenyl Phenyl Ether	101-55-3	1.5
87. Hexachlorobenzene	118-74-1	1.5
88. Pentachlorophenol	87-86-5	2
89. Phenanthrene	85-01-8	1

TABLE B-3 (Cont.)

U.S. EPA Region V
Central Regional Laboratory
Organic Method Detection Limits
Residential Well Water Analysis

Analyte	CAS Number	Method Detection Limit in Reagent Water (ug/L)
90. Anthracene	120-12-7	2.5
91. Di-n-Butyl Phthalate	84-74-2	2
92. Fluoranthene	206-44-0	1.5
93. Pyrene	129-00-0	1.5
94. Butyl Benzyl Phthalate	85-68-7	3.5
95. Chrysene[4]	218-01-9	
96. Benzo(a)anthracene[4]	56-55-3	1.5
97. Bis(2-ethylhexyl)phthalate	117-81-7	1
98. Di-n-Octyl Phthalate	117-84-0	1.5
99. Benzo(b)fluoranthene[5]	205-99-2	
100. Benzo(k)fluoranthene[5]	207-08-9	1.5
101. Benzo(a)pyrene	50-32-8	2
102. Indeno(1,2,3-cd)pyrene	193-39-5	3.5
103. Dibenzo(a,h)anthracene	53-70-3	2.5
104. Benzo(g,h,i)perylene	191-24-2	4
105. 1-Nitroaniline	88-74-4	1
106. Aldrin	309-00-2	0.005
107. alpha-BHC	319-84-6	(0.010)
108. beta-BHC	319-85-7	(0.005)
109. delta-BHC	319-86-8	(0.005)
110. gamma-BHC (Lindane)	58-89-9	0.005
111. Chlordane	57-74-9	(0.020)
112. 4,4'-DDD	72-54-8	(0.020)
113. 4,4'-DDE	72-55-9	(0.005)
114. 4,4'-DDT	50-29-3	0.020
115. Dieldrin	60-57-1	0.010
116. Endosulfan I	959-98-8	0.010
117. Endosulfan II	33213-65-9	0.010
118. Endosulfan sulfate	1031-07-8	(0.10)
119. Endrin	72-20-8	0.010

U.S. EPA Region V
Central Regional Laboratory
Organic Method Detection Limits
Residential Well Water Analysis

Analyte	CAS Number	Method Detection Limit in Reagent Water (ug/L)
120. Endrin aldehyde	7421-93-4	(0.030)
121. Endrin ketone	53494-70-5	(0.030)
122. Heptachlor	76-44-8	0.030
123. Heptachlor Epoxide	1024-57-3	0.005
124. 4,4'-Methoxychlor	72-43-5	0.020
125. Toxaphene	8001-35-2	(0.25)
126. PCB-1242	53469-21-9	(0.10)
127. PCB-1248	12672-29-6	(0.10)
128. PCB-1254	11097-69-1	(0.10)
129. PCB-1260	11096-82-5	(0.10)

[1] Common laboratory solvent. Blank limit is 5 times Method Detection Limit.

[2] The o-xylene and p-xylene are reported as a total of the two.

[3] These two parameters are reported as a total.

[4] These two parameters are reported as a total.

[5] These two parameters are reported as a total.

Values in parentheses are estimates. Actual values are currently being determined.

Contract Laboratory Program
Inorganic Instrument Detection Limits
for Residential Well Water Analysis

Metal	Required Instrument Detection Limits[1] (ug/L)	Method
1. Aluminium	100	ICP
2. Antimony[2]	5	GFAA
3. Arsenic	5	GFAA
4. Barium	50	ICP
5. Beryllium	5	ICP
6. Cadmium[2]	0.5	GFAA
7. Calcium[3]	1000	ICP
8. Chromium	10	ICP
9. Cobalt	10	ICP
10. Copper	10	ICP
11. Iron	100	ICP
12. Lead[2]	2	GFAA
13. Magnesium[3]	1000	ICP
14. Manganese	10	ICP
15. Mercury	0.2	Other
16. Nickel	20	ICP
17. Potassium[3]	2000	ICP
18. Selenium	2	GFAA
19. Silver	5	ICP
20. Sodium[3]	1000	ICP
21. Thallium	2	GFAA
22. Vanadium	20	ICP
23. Zinc	20	ICP
24. Cyanide	10	Other

[1] Instruments Detection Limits (IDL) must be met before any samples are analyzed. The Lab may submit their quarterly Form XI with each case if all IDLs meet the detection limits. If detection limits cannot be met by using ICP, use of GFAA is required.

[2] ICP analysis results may only be reported for Sb, Cd and Pb, if the concentration is ≥ 10 times the IDL of instrument used. If ICP results are reported, all ICP audits are required including matrix spike.

[3] Report Ca, Mg, Na and K on separate Form V for Matrix Spike if a separate aliquot is used for this spike.

APPENDIX E

WELL LOGS

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Wayne Civil Township: _____

Congressional township: 13N Range: 1W Number of section: 1

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Richmond - Test Well field 3½ miles SE of city

Name of owner: Richmond W.W. Corp. Address: Richmond

Name of Well Drilling Contractor: Kelly Well Co.

Address: Grand Island, Neb.

Name of Drilling Equipment Operator: _____

INFORMATION ON THE WELL

Completed depth of well: 28 ft. Date well was completed: _____

Diameter of outside casing or drive pipe: _____ Length: _____

Diameter of inside casing or liner: _____ Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☐ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☐ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 1½ ft.

Bailer Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft.

Signature _____

Date 7/11/11

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Clay	0	3
Sand	3	4
Mud	4	9
Muck	9	14
Hard Pan	14	16½
Clay & Gravel	16½	26
Clay	26	28
REMARKS:		

(Well driller does not fill out)

COUNTY: Wayne TWP. 14N RGE. 1W ___ ¼ ___ ¼ NE ¼ SEC. 35

Topo Map: [illegible] 7½

Well log classified By [illegible] Date 7/65

Courthouse located By ___ Date ___

Field located By ___ Date ___

Acc. w/o verification By ___ Date ___

___ Ft W of EL. Ground elevation ___

___ Ft N of SL. Depth to bedrock ___

___ Ft E of WL. Bedrock elevation ___

___ Ft S of NL. Aquifer elevation ___

[illegible]

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning a water well. We request that you be as accurate as possible in recording this information as it may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation.

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Wayne Civil Township:

Congressional township: 13N Range: 1W Numbe

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby town or distinctive landmarks: Richmond East Fields 3½ miles S.E. of

Name of owner: Richmond W.W. Corp. Address: Rich

Name of Well Drilling Contractor: Kelly Well Co.

Address: Grand Island, Neb.

Name of Drilling Equipment Operator:

INFORMATION ON THE WELL

Completed depth of well: ft. Date well was completed: Apri

Diameter of outside casing or drive pipe: Length:

Diameter of inside casing or liner: Length:

Diameter of Screen: Length: Slot size:

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other

Use of Well: For home ☐ For industry ☐ For public supply ☐

Method of Drilling: Cable Tools ☐ Rotary ☐ Rev. Rotary ☐ Jet ☐

Static water level in completed well (Distance from ground to water level)

Bailer Test: Hours tested Rate g.p.m. Drawdown ft. (Diff stat

Pumping Test: Hours tested Rate g.p.m. Drawdown ft. leve

Signature

Date A. K.

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SH

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Soil	0	5
Gravel	5	7
Black dirt	7	10
Hard pan	10	20
Gravel	20	21
Hardpan	21	23
Fine Gravel & Sand	23	33
REMARKS:		

COUNTY: Tippecanoe TWP. 24N RGE. 4W ¼ ¼ NE ¼ SEC. 33

Topo Map: Battle Ground 22

Well log classified By Owner Date 7/65

Courthouse located By ____ Date ____

Field located By ____ Date ____

Acc. w/o verification By ____ Date ____

____ Ft W of EL. Ground elevation ____

____ Ft N of SL. Depth to bedrock ____

____ Ft E of WL. Bedrock elevation ____

____ Ft S of NL. Aquifer elevation ____

(If owner does not fill out)

Kelly Hy. 28

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning a water well. We request that you be as accurate as possible in recording this information as it may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation.

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Wayne Civil Township: _____

Congressional township: _____ Range: _____ Number of section: ___

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, street or distinctive landmarks: Richmond - East Gate field, 3½ miles E of city Well

Name of owner: Richmond W.W. Address: Richmond

Name of Well Drilling Contractor: Kelly Well Co

Address: Grand Island, Neb.

Name of Drilling Equipment Operator: _____

INFORMATION ON THE WELL

Completed depth of well: 24'2" ft. Date well was completed: July 1935

Diameter of outside casing or drive pipe: _____ Length: _____

Diameter of inside casing or liner: 25 - 32" Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☐ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 4 ft

Bailer Test: Hours tested ____ Rate ____ g.p.m. Drawdown ____ ft. (Difference between static level and wa

Pumping Test: Hours tested ____ Rate 325 g.p.m. Drawdown 12½ ft. level at end of tes

Signature H. A. Gd Gale

Date 1951

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Sand, gravel, stone & Clay	0	19
REMARKS:		

COUNTY: Elkhart TWP 37N RGE 4W ¼ ¼ ¼ NE¼ SEC. 35

Topo Map: Elkhart Paw Paw 7.5'

Well log classified By Ben Date 7/61

Courthouse located By _____ Date _____

Field located By _____ Date _____

Acc. w/o verification By _____ Date _____

_____ Ft W of EL. Ground elevation _____

_____ Ft N of SL. Depth to bedrock _____

_____ Ft E of WL. Bedrock elevation _____

_____ Ft S of NL. Aquifer elevation _____

(Do not fill out)

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning a water well. We request that you be as accurate as possible in recording this information as it may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation.

#20

RECORD OF WATER WELL

State Form 35680 (R3 / 11-87)

Mail complete record within 30 days to:
INDIANA DEPARTMENT OF NATURAL RESOURCES
Division of Water
2475 Directors Row
Indianapolis, Indiana 46241
Telephone number (317) 232-4160

(Print completely)

WELL LOCATION

County where drilled	Civil township	Township	Range	Section
Wayne	Wayne	14 n	1 west	30

Driving directions to the well location (include county road names, number, subdivisions lot number with consideration to intersecting, road and trip origination there is space for a map on reverse side.

I-70 East To Exit 145a (Williamsburg Pike) at 3rd Stop Light Turn Left plant is straight in front of you

OWNER - CONTRACTOR

	Telephone Number
Name of ~~well owner~~ Alcoa Closures	(317) 983-9200
Address (Street and number, city, state) 1701 Williamsburg Pike Richmond In	ZIP code 47374
Name of building contractor n/a	Telephone number ( ) n/a
Address (Street and number, city, state) n/a	ZIP code n/a
Name of drilling contractor Heritage Remediation / Engineering	Telephone number (317) 243-7975
Address (Street and number, city, state) 1175 Western Drive Indpls In.	ZIP code 46241

Name of equipment operator	License number	Date of completion
Russell A. Myers	712	5-20-91

CONSTRUCTION DETAILS

Use of well:
☐ Home ☐ Industry ☐ Test ☐ Irrigation
☐ Public supply ☐ Stock ☐ Other (specify): monitoring well

Method of drilling:
☐ Cable tool ☐ Jet ☐ Rotary ☐ Rev. rotary ☐ Bucket rig ☐ Other Hollow stem

Casing length	Material	Diameter
8.9' feet	PVC	2" inches

Screen length	Material	Diameter
5' feet	PVC	2" inches

Screen slot size: .010
Total depth of well: 11.7' from Grade
Depth of pump setting: n/a
Water quality (Clear, cloudy, odor, etc.): clear

Type of pump
☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☐ Other (specify): n/a

WELL CAPACITY TEST

Check one: ☐ Bailing ☒ Air ☐ Pumping
Test rate: n/a gpm n/a hrs.
Drawdown: n/a feet
Static level (depth to water) 10.35' casing feet

GROUTING INFORMATION

Grout material	Depth of grout	Number of bags used	Method of installation
Hole plug Bentonite	From 5.2' To 6'	2	poured

WELL ABANDONMENT

Sealing material	Depth filled	Number of bags used	Method of installation
	From To		

WELL LOG

Formations: type of material	From (Feet)	To (Feet)
Sandy Loam w/ pebbles fine To med firm moist	0	2'
sand dry med well sorted fill	2'	6'
silt wet	6'	7'
sand w/ pebbles med	7'	9'
silt Loam w/ pebbles moist firm	9'	12'
Sandy Loam w/ pebbles	12'	13'

(Additional space for well log on reverse side)

I hereby swear or affirm, under the penalties for perjury that the information submitted herewith is to the best of my knowledge and belief, true, accurate and complete.

Signature of owner or authorized representative: Russell A. Myers

Date: 6-7-91

Piperville Twp.

FOR ADMINISTRATIVE USE ONLY
(well driller does not fill out)

County	Township	Range		Section
Wayne	14N	1W	NE ¼ NW ¼ SW	29

Topo map: Richmond 7½	Ft. W of EL	Ground elevation	Subdivision name
Field located — By — Date	Ft. N of SL	Depth to bedrock	Lot number
Courthouse location — By — Date	Ft. E of WL	Bedrock elevation	U.T.M.
Location accepted w/o verification by: SW 1-92	Ft. S of NL	Aquifer elevation	

(continued from front side)

WELL LOG — Formations: type of material	FROM — Feet	TO — Feet

SKETCH SHOWING LOCATION
(Locate with reference to highways, intersecting county roads and distinctive landmarks.)

N

W E

S

SEP 17 1993

SAFETY/ENV

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Wayne Civil Township: Richmond

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Well drilled 250 ft. East of 1701 N. Williamsburg Pike.

SITE PRODUCTION WELL

Name of owner: ALCOA Address: 1701 N. Williamsburg Pike

Name of Well Drilling Contractor: Moody's of Dayton, Inc.

Address: PO Box 155 Vandalia, Ohio 45377

Name of Drilling Equipment Operator: Russell Fields

INFORMATION ON THE WELL

Completed depth of well: 171 ft. Date well was completed: 11 February 1970

Diameter of outside casing or drive pipe: 12" Length: 172'

Diameter of inside casing or liner: _____ Length: _____

Diameter of Screen: 11 5/8" Length: 20' Slot size: 4'- 25 Slot 6'- 70 Slot 10'-125 Slot

Type of Well: Drilled [X] Gravel Pack [ ] Driven [ ] Other _____

Use of Well: For home [ ] For industry [X] For public supply [ ] Stock [ ]

Method of Drilling: Cable Tools [X] Rotary [ ] Rev. Rotary [ ] Jet [ ] Driven [ ]

Static water level in completed well (Distance from ground to water level) 83 ft.

Bailer Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested 8 Rate 457 g.p.m. Drawdown 23 ft.

Signature R. E. Caspel

Date 16 March 1970

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

Roy F. Weston, Inc.
Suite 400
3 Hawthorn Parkway
Vernon Hills, Illinois 60061-1450
847-918-4000 • Fax 847-918-4055

22 November 1996

Ms. Jeanne Griffin, 5HSM-5J
Work Assignment Manager
Site Assessment Section
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

U.S. EPA Contract No.: 68-W8-0089

Work Assignment No.: 45-5JZZ/SSI

Document Control No.: 4500-45-ANKP

Subject: Final Screening Site Inspection Reports for; Sanyo E&E Corporation (IND087032207), Peabody Coal Company (IND980901086), Clarksville Gravel Pit No. 1 (IND984897280), and Rolford (IND982073272)

Dear Ms. Griffin:

As requested by Jan Pels, Roy F. Weston, Inc. (WESTON®) is pleased to submit one copy of each of the above mentioned Final Screening Site Inspection Reports for the site owners. If you have any questions, please contact me at (847) 918-4039.

Very truly yours,

ROY F. WESTON, INC.

James M. Burton

James M. Burton, P.E.
Site Manager

JMB/slr
Enclosures

CH01\PUBLIC\WO\ARCS\040\22810.LTR 4500-45-ANKP